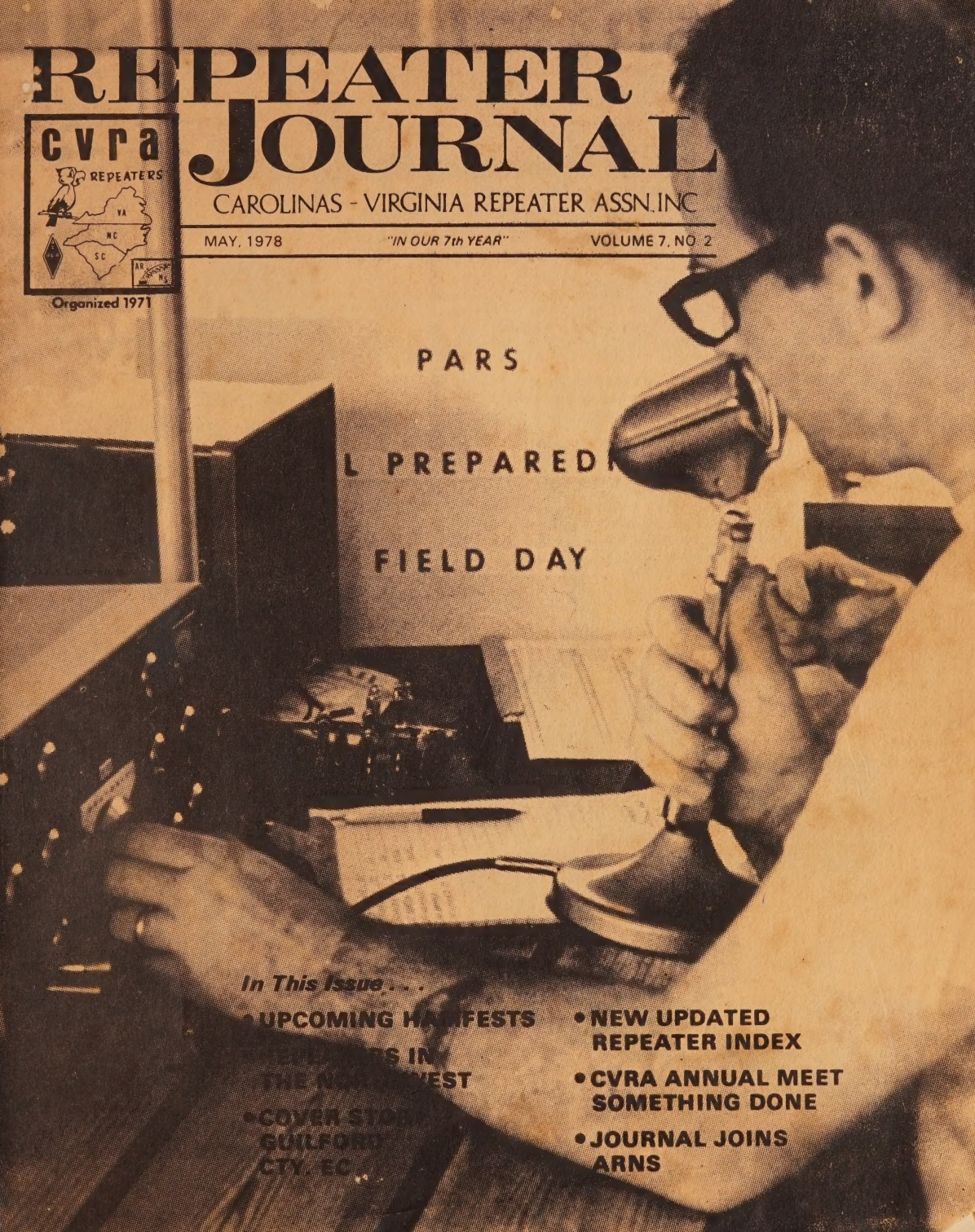
REPEATER JOURNAL

CAROLINAS - VIRGINIA REPEATER ASSN. INC

MAY, 1978 "IN OUR 7th YEAR" VOLUME 7, NO. 2

Organized 1971



In This Issue . . .

- UPCOMING HAMFESTS
- [illegible] IN THE [illegible] WEST
- COVER STORY [illegible] GUILFORD [illegible] CTY. EC
- NEW UPDATED REPEATER INDEX
- CVRA ANNUAL MEET SOMETHING DONE
- JOURNAL JOINS ARNS

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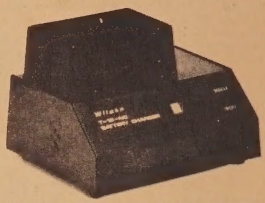

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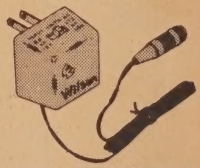

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REPEATER JOURNAL

CAROLINAS - VIRGINIA REPEATER ASSN. INC

MAY, 1978 "IN OUR 7th YEAR" VOLUME 7, NO. 2

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COMMENT: FROM THE Editor's Notebook

WRITE IT DOWN! LEMME HAVE IT!

How often have you searched the Journal for a story about something that was done to your repeater, or a new repeater on the air in your town. Alas, it cannot be found anywhere in the Journal.

This does happen. Your Journal staff is limited only to what is given to us by various members and repeater owners. We cannot make telephone calls all over the state, even though some folks think we should have coverage like NBC news.

Almost all the information in the Journal is sent to us by someone. In fact, since it's so easy to get something wrong, we must insist that it comes to us in writing, then we can re-write the information in story form.

We have had several occasions where we were unable to get repeater owners to cooperate and send us news for a particular issue. Our readers got mad and complained because we didn't print anything about the "new machine on the block". But we feel that it should be the responsibility of the owner, or club to take just a moment of their time and write the Journal the information they would like to see published. That's the only accurate way to go.

Some people might stop us at a hamfest and tell us something about a new machine. We try to remember, but sometimes we forget. If they had taken a moment to write it down we could have followed through. But understand, keeping up with some 100 to 150 different news items in each Journal, 224 repeaters in the Index, dozens of nets and Club meeting times, plus writing other feature material is a task for a bunch of folks who do this as a public service in their "spare time"

(continued on page 21)

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ON THE COVER

CHUCH BINO, K4CJZ mans the mike during a recent Field Day with Civil Preparedness. See story in this issue.

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CVRA BOARD MEETING HELD

—by Charles Durst, WA4WTX

On February 26, a CVRA Board Meeting was held in Durham, N.C. After introductions, of everyone present, the new officers were installed by Phil Wicker, W4ACY, Roanoke Div. Director, ARRL. Reports from the secretary and treasurer were read and approved.

The recent change of the bylaws which allowed all full members to vote in the election of officers was discussed. Reports were heard from Full Membership, Associate Membership, and Frequency Coordination Committee chairmen as well as the Journal Editor.

A number of vacancies which existed within the organization were filled. Ken Woodard, WA4RHY, of Fayetteville and Al Ross, K4CAW of Greensboro were appointed Assistant Directors for N.C. The state still has one Assistant Director vacancy. Director Eddie Sellers, W4NTQ in the East, Larry and Al in the Central and Ken in the Western end of the N.C. State.

In South Carolina, Director Wade Holland appointed or renewed appointments to: Bruce Douberley, WB4JNE of Walhalla (Western); Lennart H. Bjerken, WB4USY, of Shaw Air Force Base near Sumter (Eastern) and Thomas L. Martin, WB4PVL of Walterboro (Coastal) as Assistant Directors for South Carolina.

For Virginia, Carter Cogle, K4ARO of Petersburg introduced his Assistants and Vice Director. Al Dyson, W4PDL of Salem (Central) Vice-Director; Wally Burkette, WA4KXV of Virginia Beach (Coastal) and Bob May, K4SE, Jonesboro, Tn. (S.W. Va.) as Assistant Directors.

Cecil Oliver, WA4VQQ, Virginia Beach was appointed Chairman of the FCC Liaison Committee. Jim Menefee, WA4KKY, Hillsborough (N.C.) is on Cecil's committee.

Larry McLaurin, WB4VJE, of Greensboro (N.C.) was appointed Assistant to Lindsay Cleveland, Associate Membership Chairman.

Danny Hampton, K4ITL, Raleigh, (N.C.) is on the Technical Advisory Committee. A chairman and two other assistants are needed for this committee.

Vacancies also still exist on the associate membership committee. Volunteers (especially one in S.C. and Va.) are needed.

The officials discussed at length the need for standard forms and correspondence for frequency coordination. Forms for speeding up the coordination process, and notification and acknow-

Cont. Page 7

AMATEUR CALLSIGN SYSTEM REVAMPED--MORE CHANGES TOO!

by Wayne C. Williams, Editor

The last week of March brought forth a barrage of announcements of rule making by the FCC. First temporary rules were made to use primary Calls for Repeater, Control and Auxiliary Link stations. Then the temporary rule was made permanent. Days later, the Commission surprised us with a complete overhaul of the Callsign structure. New prefixes for U.S. Caribbean and Pacific Islands were also announced. The Linear Amplifier dockets 21116 and 21117 were also placed in our hands as new rules.

The FCC approved, effective May 15 the 2-meter sub-bands for FM repeater operation and added space on 220 mhz. is also effective May 15.

REPEATERS & SUB-BANDS

Docket 21033 dealt with the addition of 144.5 to 145.5 mhz being added to 146 and 147 mhz for FM repeater operation. When this docket was first approved by the commission then rescinded a couple of days later, the CVRA went on record as most of the oher repeater councils in the country in adopting a plan very similar to the ARRL plan.

The CVRA adopted plan allowed 20 channels in the 2-meter sub-band, with 20 khz spacing, no split/splits. The section 144.9 to 145.1 mhz. (200 khz.) is reserved for non-channelized communications, weak signal, ssb, etc. The commission repeated this portion of the docket, said it would become effective May 15.

The WR calls were dealt a death blow with the permanent ruling of utilizing Primary calls for repeaters. Repeater calls will not be renewed, and no new ones will be issued.

In the 220 mhz band, frequencies for repeaters available are 220 mhz up, with the exception of 220.0 to 220.5 mhz, also 431 to 433 mhz and 435 to 438 mhz in the 450 mhz band, are not available for repeater use.

CALLSIGN RESTRUCTURE

The big surprise came when the commission announced that effective March 24, the complete restructuring of the Amateur callsign system. The new Assignment plan will go into effect in steps, the first--Phase I beginning immediately.

Under phase I, any newly licensed Amateur will receive a callsign determined by the class license he enters amateur radio. Other amateurs who upgrade may also get a new callsign with a

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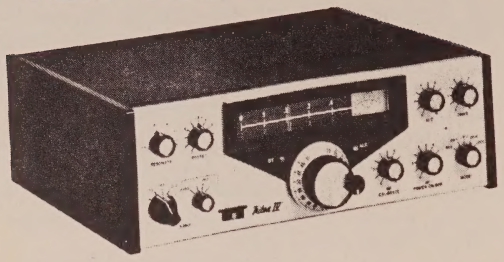

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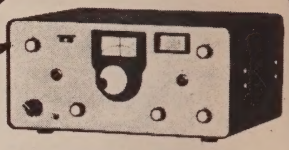

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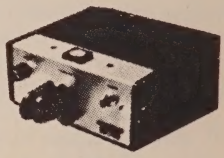

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request on line 13A of Form 610. Extra class licenses who wish the new Extra callsign may request one by October 1st. It might be noted that Amateurs wishing to retain their existing calls may do so, the new calls are not required when an amateur already has a callsign.

The new callsign structure calls for: EXTRA--2x1 Call, beginning AA4A; ADVANCE, 2x2 call--beginning KB4AA; GENERAL--Nx3 call--beginning N4AAA and NOVICES--2x3 call, beginning KA4AAA.

PHASE II of the callsign restructure will allow Advanced and later General and Technician class licensees to request and receive one of the new calls which is the proper grouping for their class license. Phase II will begin sometime in the future.

NOVICE LICENSE

The commission changed the term of the Novice Class License from two to five years and made the Novice Class license renewable. This action will be effective May 15.

CONCLUSION

The Commission in its continuing effort of deregulation now has made it possible for a person to put a repeater on the air immediately without waiting for a repeater call, by using his primary call. (assuming all requirements still needed by the Commission are met and in the repeater station log.).

The new callsign system will allow distinct calls for each class license, however most persons with old 1x3 W & K calls will probably wish to retain their existing call and identity.

New repeater sub-bands have been released in all three VHF and UHF regions. If bandplans are followed, very little problems will be evident for the SSB operators, with ample space very closely where most activity is on 2-meters. The new channels will help some of the crowded conditions existing around the country. and beginning in CVRA territory.

All in all, the changes are for the good. It is sad the WR calls for repeaters are being discontinued, although it seems the ARRL hasn't given up yet, as they have requested additional hearings concerning the WR calls for repeaters. The good coming out of the dockets 20282, 21033 and 21135 for the Amateurs outweighs the bad, although many will disagree, its simply making more room for the numbers and taking some room in the band not being fully used.

We hear from the grapevine that the "Communicator" license portion 20282 is "Dead", so everything can't be all bad. (Excerpts from ARRL Bulletins, HR Report, FCC News, CVRA Journal)

FCC CAUTIONS DEALER SALES OF 24-35 MHZ AMPLIFIERS

The FCC is revising its regulations dealing with external radio frequency power amplifiers (Linears), cautioned manufacturers, retailers and consumers of this equipment that since April 28, the manufacture, marketing or importing of any amplifier capable of operation from 24 to 35 mhz. is prohibited.

In addition, the manufacture, import or marketing of any amplifier capable of operation below 144 mhz, will be prohibited unless that amplifier has been type accepted by the Commission.

These rules were issued by the FCC due to the large number of interference complaints received each year, over 80% of which are due to the use of a CB radio. In a study of these complaints, the Commission, it was determined that the illegal use of a "linear" amplifier with the CB transmitter was the reason for at least 46% of the complaints. In addition, many of the manufacturers of these amplifiers, some designed almost exclusively for CB operation, have not complied with the previous regulations which state the maximum amount of unwanted radio signals which can be generated by this equipment.

Some amplifier models can be granted waivers of the marketing cut-off date and must be capable of passing all the type acceptance requirements, exclusive of the 24 to 35 mhz. ban. Once a marketing waiver has been granted, that model amplifier if manufactured prior to April 28, may continue to be marketed for as long as allowed by the waiver. The waiver will not apply to various models of amplifiers, only those explicitedly mentioned and approved by the waiver.

A grant of type acceptance for these amplifiers can be obtained in a similar manner to the method used for obtaining a waiver. A completed application for type acceptance, including the measurements demonstrating compliance with the 24 to 35 mhz. frequency ban, and a sample of each model amplifier for which type acceptance is requested submitted with the application.(excerpts from FCC Public Notice)

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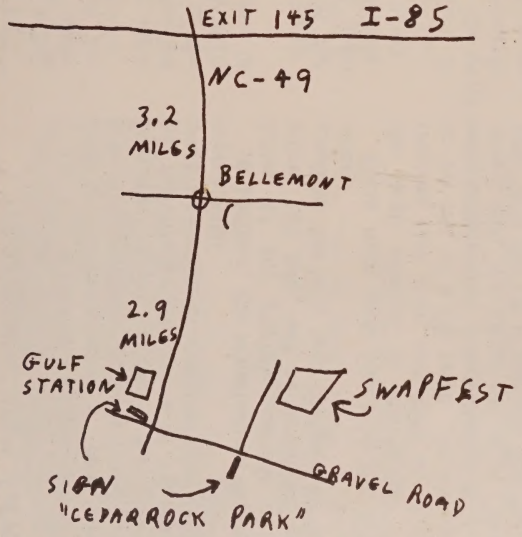

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SWAPFEST

NORTHWESTERN U.S. REPEATER COUNCILS-HOW THEY ARE DOING

—by Wayne C. Williams, K4MOB

Received a letter the other day from Clay Freinwald, K7CR. Clay is Secretary of the Western Washington Amateur Relay Association (WWARA). He is also a member of VRAC for the Washington State area.

WWARA takes care of Frequency coordination and repeater remote base matters for Western Washington. . .understanding the state is divided in half by a large mountain range up to 14,410 feet. . .from a VHF-FM standpoint they have only one repeater that talks to both east and west sides. The group's main concern is to the North and South.

To the North is the B.C.F.M. Association which works closely with WWARA. A system is set up there where a "would-be" repeater operator MUST have been coordinated a frequency BEFORE the government issues him a license to operate. (This perhaps would be the way to go in the U.S. also).

To the South there's Oregon Region Relay Council, ORRC, and to the East is the Inter-Mountain Amateur Relay Association, I-MARA.

In all matters of mutual interest, the groups get together with the group representing that area and discuss the situation.

K7CR said this type situation is resulting in the effect of clear channel repeater frequencies and very good results over the past five years. People are operating machines of ranges of 300 miles in each direction interference-free. Channels designated interference free by the councils are 01-61/07-67/16-76/22-82/22-88 and 66-06, used solely by WWARA.

Other interference-free channels are designated for BCFM and ORRC. No repeaters are operated on those designated channels in Western Washington. They are 34-94/72-12/25-85 and 83-33. Other channels are utilized as we do in the Carolinas-Virginia area, short range.

Clay said like everywhere else, they have reached the saturation point. They have utilized directional antennas, 15 khz splits, etc. The saturation point is still there.

"We find the 15 khz splits totally unsatisfactory in our area," Freinwald said, "and we presently are looking at the possibility of having all the ODD numbered repeaters channels moved 10 khz to an even numbered frequency. This in effect will create 12 new completely usable channels with 20 khz. spacing."

He said the various councils in the area are FULLY supporting this idea of 20 khz. spacing for the ARRL 144.5 sub band and are suggesting that this take place on 146 mhz. also. They reason for going EVENS, this will displace a minimum number of repeaters. The council has presently 28 machines on the air.

Concerning 220 mhz. K7CR said the band is growing. The WWARA has allocated 20 pairs in this band, with about 12 repeaters on the air in the area.

On 10 meters he said, "Just starting to take hold", with about 50 users of 29.6 simplex and one repeater on the air and another in the works.

Six-meters is growing fast and most activity is centered in Western Washington. Eastern Washington's most activity is Spokane and Tri Cities. All repeaters are on the ARRL band plan.

The UHF frequencies of 450 mhz. in the Washington area is being utilized by 13 repeaters Freinwald reports, with only 2 being open, the rest closed. (The only band with "closed" repeaters.

Freinwald closed his letter stating that the groups in the Northwest are seriously looking at the 20 khz situation for repeaters, with a lot of discussion going on. . .on the air and off. He emphasized that they WERE NOT going to allow anyone to come in and create a New York or Los Angeles situation. They are urging repeater owners not to make any changes until they can find out the wishes of the majority, and if reception is positive, everyone will be notified and then the decision will be made for a single shot move of all repeaters involved, or phased in on a "go ahead and move when you want to situation."

We wonder if any cost is too great to eliminate the problems of interference. In the CVRA territory with over 150 repeaters, would 12 additional channels do anything but delay the final plunder by interference. I just wonder. . .

CVRA Board Meeting Cont.

ledgement forms while coordination is in process. The forms are being worked out and are hoped to be implemented in the future.

The meeting was well-attended and business was conducted quickly. The next meeting planned may be for full and associate membership at the Greensboro Communications 78, June 30.

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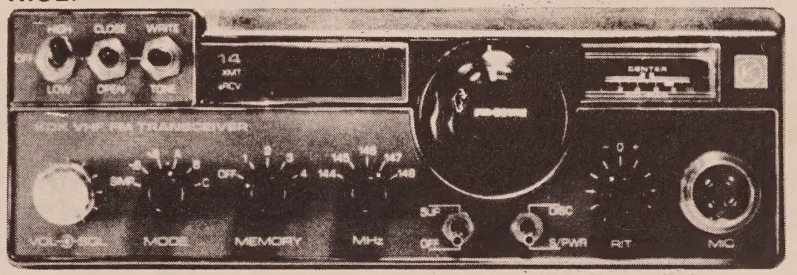

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THE CVRA FREQUENCY COORDINATORS JOB EXPLAINED

—by Herman Cone, WB4DBB

After about a year of working with CVRA as the Frequency Coordination Chairman, I thought it might be worthwhile to write about just what is involved in my job, in an attempt to make repeater coordination better for all of us.

As most of you know, one of the main functions of CVRA is to optimize the utilization of the Repeater Sub-bands in all Amateur bands above 29.5 mhz.

Our three states, covered by the CVRA, cover a lot of area, and we try to maintain smooth repeater operation not only in our states, but on our borders with adjoining states (Georgia, Tennessee, West Virginia, and "T-MARC" states) as well. As you can see by looking in each Journal repeater listing, there are a lot of repeaters, especially 2-meter ones, in our area.

We normally try to maintain at least 150 miles between two repeaters on the same frequency pair, and up to 50 miles between two repeaters that differ in frequency by 15 kilohertz. (At times this is nearly impossible).

It is normally the State Director's job to assign channels in his State. My job is to work with the directors to make sure that a repeater in one directors state will not interfere with a machine in another director's adjoining State. I also have the job of communicating with coordinators of repeater groups in adjoining states. Not all states have exactly the same channel pairs we have, so allowances must be made for this.

If you desire to put up a repeater, WRITE YOUR STATE DIRECTOR (You'll find his name listed on page 2 of this Journal) and supply him with all the technical information you can collect. The directors have forms for filling in this information. On this form, you can list the frequency preferences you may have. Based on this data, the directors and I will make the best frequency recommendation we can. Often, I have to send the list of possible frequencies to repeater coordinators in adjoining states to endure that our recommendations will not put a new repeater on that will cause QRM problems with repeaters in their states. All of this does take time. This process could be made faster if we made telephone calls, but this would be expensive, and the CVRA Frequency Coordinator's budget is very limited. Therefore, we have to use the mail.

I feel that it is better to thoroughly investigate all aspects of a new repeaters coverage and overlap possibilities than to try to make a quick frequency recommendation based on relatively local information. Even though this can easily take up to a month, (in worst cases) all of us benefit, by having a minimum of QRM, after you get your repeater on the air, on the frequency recommended.

You may have noticed how many different repeaters are added to our repeater lists each issue of the Journal. We are becoming saturated with them. It is getting exceedingly difficult to come up with useable channels in many areas. There are several spots in North Carolina where NO repeaters can be put on the air without causing some QRM to someone else. This is true for 15 kilohertz pairs as well as the others. In cases like this, we have no alternative except to suggest using another band. It is a known fact that 220 mhz provides coverage that compares favorably with 2-meters.

There are getting to be quite a few 220 mhz repeaters in our area, especially North Carolina, and some coming in South Carolina. The useable range is typically 75% to 90% of that obtained with an equivalent 2-meter machine. Repeater spacing on 220 mhz. is 1.6 mhz. on 220 input-outputs, compared with 600 khz spacing on 2-meters and on 220, many instances duplexers can be eliminated, saving hundreds of dollars.

220 mhz equipment is readily available now, and many hundreds of amateurs have already discovered the many benefits of this band. We now have as many operational 220 mhz. repeaters as we had 2-meter ones when the Repeater organization was formed in 1971, and numbers of 220 mhz machines are growing fast.

If you decide to put up a 220 mhz. repeater in an area crowded with 2-meter ones, you need not worry about it staying quiet. It will be used. All 220 mhz repeater owners as well as all users that I have talked to have not regretted their investment in this band, as it is a good alternative to 2-meters in areas where repeaters are abundant on 2-meters.

I feel that although the immediate threat of 220 mhz CB is dead, we should expand our repeater operations into this band as well as 50 and 450 mhz. This is especially important if you want to put up a closed, local, or experimental machine.

Hopefully, this story will answer a few questions on how Frequency Coordination works, and how you can help make our VHF and UHF bands better for all of us.

Cont. Page 46

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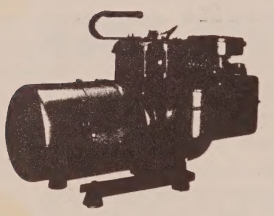

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P105TH-1M	1500	Tec.	3.5	Recoil	17¼	17	15½	64	74
P109BH-1M	1900	B&S	4.0	Recoil	19¾	14	16	79	89
P202WRH-1M	2250	Wisc.	4.6	Recoil	25	15½	18¾	100	110
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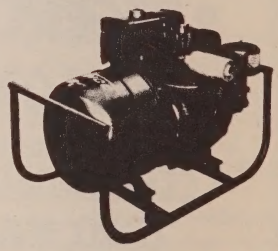

MODEL NO.	VOLTS	ENGINE MAKE	H.P.	STARTING METHOD	DIMENSIONS L	W	H	WEIGHT NET	SHIP
P307BH-1M	115	B&S	8.0	Recoil	25	17½	18	120	135
P307BH-3M	115/230	B&S	8.0	Recoil	25	17½	18	122	137
P307BH-1E	115	B&S	8.0	Electric	25	17½	18	122	137
P307BH-3E	115/230	B&S	8.0	Electric	25	17½	18	124	139

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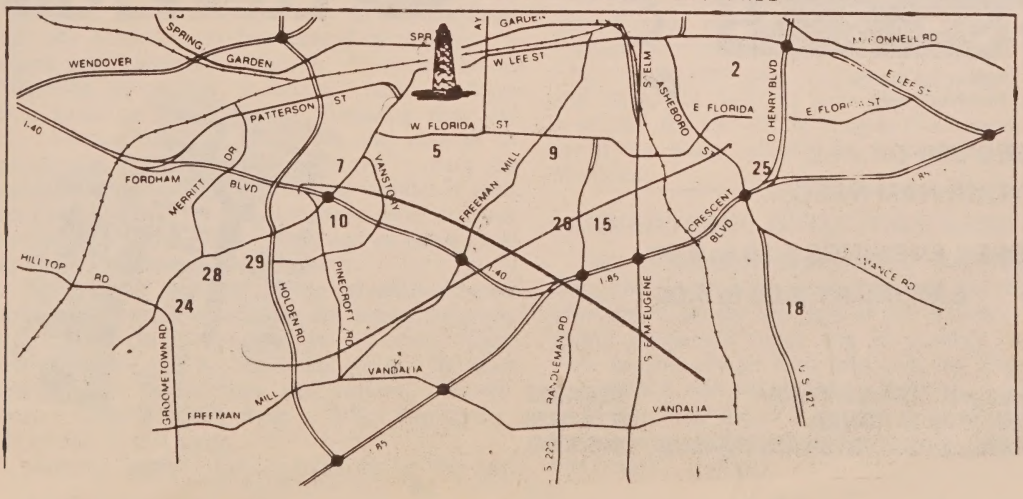

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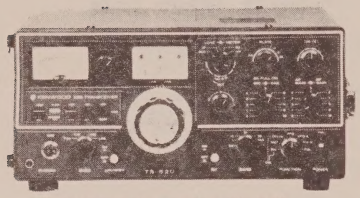

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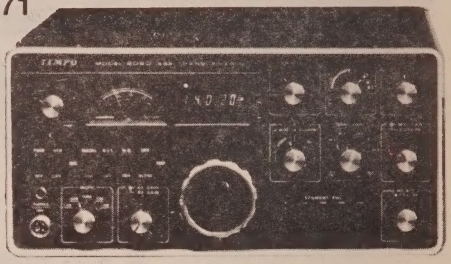

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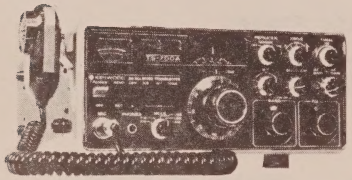

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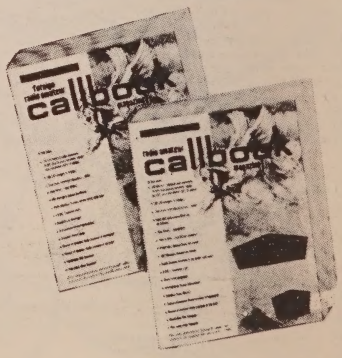

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ASSOCIATE MEMBERSHIP CONSTANTLY CHANGING

—by Lindsay Cleveland, W4IZI

As some of the Associate Members now know, we have changed our renewal procedure somewhat. When I first became Associate Membership Chairman, we only had 250 Associate Members. At that time, the Journal was much thinner than it is now and the mailing labels were hand-typed by me. Some of you may remember receiving your Journal as First-Class mail! At that time, it was quite easy to insert renewal notices and receipts in the Journal before it was mailed. Up until this year, I have tried to continue this "personal touch" mainly because I feel that ours is a special group and that I have come to know so many of you, having met many at the hamfests and received nice notes with renewals.

But we are also a growing group! We now have over 1650 Associates and more coming all the time. The mail averages 40 letters each week!! Our last mailing was over 2000 Journals weighing 450 pounds and we must now group them by zip code, by city, by SCF (first 3 digits), and by state, not to mention placing them in the appropriate sacks. As you can see, it becomes a very time and energy-consuming task to insert renewals and receipts in the appropriate Journals and then staple them. And with the latest Journal, it was too thick for my stapler to make it thru! So I had to have to put aside my pleasant pastime of personally thanking everyone for their continued participation in the CVRA and handwriting the renewal notices. The work has been turned over to the computer but the accuracy (or inaccuracy) of member records is still maintained by me. There will be no "blaming it on the computer" here; if there is a mess-up it will be my fumbling that did it. Fortunately, you folks are nice enough to point out the mistakes to me and I really do appreciate it (honest). So if you wonder if your renewal made it to me o.k., just look at your mailing label; the date at the end of the middle line tells you the expiration date.

Speaking of renewals, let me extend my thanks to all you folks who re-up for more than one year. That really cuts down on my work. Sorry we can't give you a price break on it. The dues are fixed in the by-laws, and besides, with volunteer help, we can't claim a "labor cost-saving" (½ of zero is still zero).

Another thing I have learned during the past four years is we have a very mobile group (pun definitely intended!) Many remember to let us know their new address but there have been quite a few who forget about us in the rush of moving. If you have wondered what the "Address Correction Requestion" is all about on the back cover of the Journal, that means we ask the Post Office to send us a card with the new address, which they do for the "modest" fee of 25 cents. What they do with your Journal is randomly determined; occasionally it is returned to us, now and then it is forwarded to you, but usually it is thrown away. In those cases where I know it was discarded, I try to send a replacement (if I have any left!), but it means a delay in receiving your Journal (and an extra 63 cents outlay). So if you can, please keep us in mind when you move. This last Journal found 35 hams elsewhere.

Finally, I would like to welcome the second member of the Associate Membership Committee (I'll bet you didn't know it was in the by-laws that we can have more than one person.) Larry McLaurin, WB4VJE of Greensboro, N.C. has kindly offered his services and I am very glad to have him. I just hope that his XYL Jane will be as understanding as mine has been! He will be trying to make it to the area hamfests to sign up new Associate Members and provide a "Face, not a P.O. Box" representation to all the CVRA members. I hope you all will be as helpful to him as you have been to me. He and I both will be there to provide a "friendly ear" and to learn of your suggestions for improvement of the CVRA. Remember, this is an Association of Amateurs, not a "publishing house!"

Up to now we have had rather spotty response from the February Journal article challenging the membership to join up new members. I have had a very good response from the officers and staff, but only 42 from the membership as a whole. So we will do it again this quarter and see if the warm weather can get our circulation increased.

ADVERTISING DIRECTORY BACK IN

Due to numerous requests by CVRA membership, the Journal is pleased to list the Advertisers index on the last page of the Journal. This handy guide will assist you in quickly finding your favorite Dealer who advertises and Supports your CVRA with his advertising Dollars.

If your local dealer is not listed for advertising in the Journal, next time you stop in, ASK HIM WHY NOT? (Editor)

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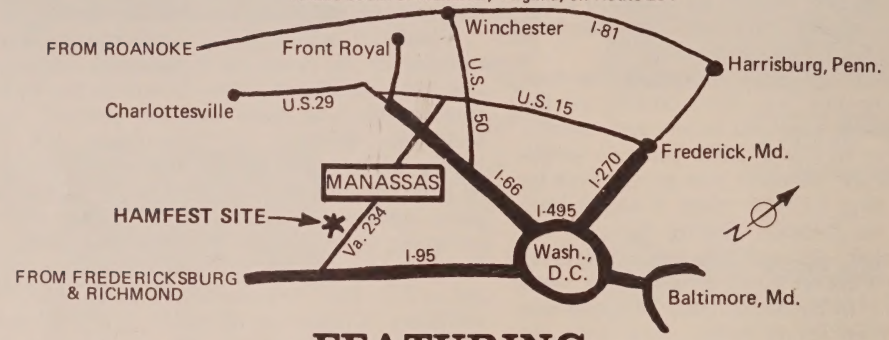

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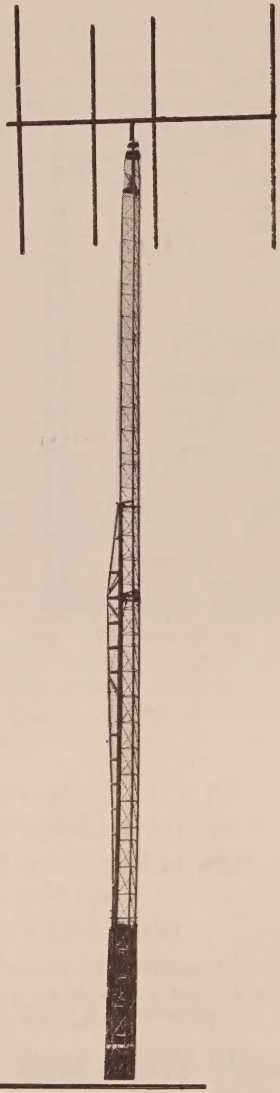

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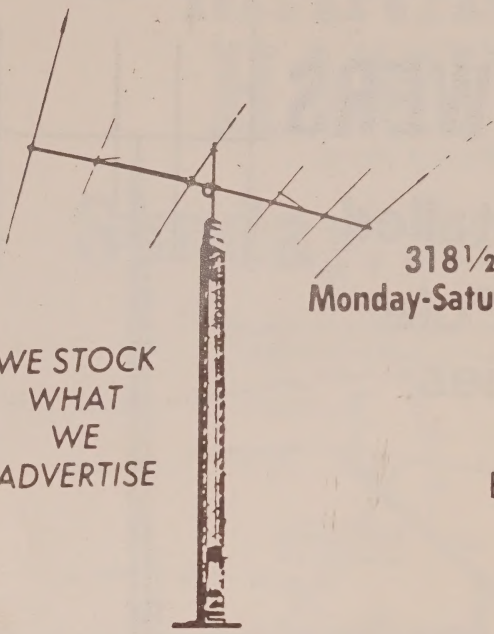

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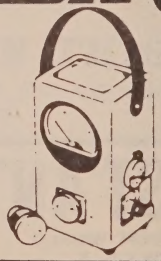

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TECHNICLE TOPIX

TOUCH TONE PAD HOOK-UPS ONE MORE TIME

by Watson WB4EXW

Since autopatch-equipped repeaters are in good supply these days, many FM'ers have a tone pad of some sort attached to their mobile rig or handy-talkie. Varieties exist but for the most part the pads are of two types. Probably the most popular is the standard tone pad manufactured by Western Electric, ITT or Automatic Electric. The other type uses a miniature keyboard attached to a fairly new Motorola (or other manufacturer) tone generator IC with a 2 MHz crystal. This miniature unit is many times seen attached to a handy talkie.

This month we would like to backtrack a little and refresh your minds on how to hook up one of the standard Touch-Tone pads to your rig and as a highlight give you the information needed to check the calibration of your pad and adjust it if needed.

If one searches the back issues of the ham magazines for tone pad circuits, he will most likely see that there are numerous methods of achieving the same result. The typical hook up of the W-E and A-E pads are shown in Figure 1. The supply voltages that most people use are 9V from a transistor radio battery or 12V from the rig. If 12V from the rig or auto is used, it is quite important that the power is well-filtered. More than one ham has met his demise from alternator whine or other noise on the auto's 12V system causing the pad's tone output to be distorted.

Now that we have power to the tone pad we need some way of coupling the audio tone to our rig's mike input. The most popular ways are acoustic or direct coupling. Acoustic coupling allows us to simply hold our mike over a small speaker while it is in use. This also allows us to use one pad for several rigs. Direct coupling has the advantage of having no extraneous sound pickups. You will just have to make a choice as to which you like better. Figure 2A is an example of an acoustical hookup and Figure 2B illustrates the direct coupled approach. Notice that Figure 2B shows an output configuration for low or high impedance mike inputs. Use the one needed for your rig.

Testing a tone pad's output frequencies and adjusting it is really simple. Believe it or not, there are only two adjustments. One is for the low group tones and the other is for adjusting the high group tones. Only two pieces of test gear are needed: a frequency counter that is accurate in the audio range and a nonmetallic tuning tool that will fit the cores of the transformers.

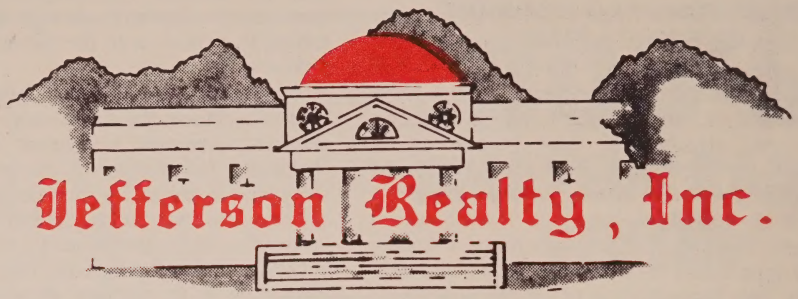
Now that your pad is all hooked up, let's calibrate it. Hook the frequency counter across the speaker terminals or across the secondary of the audio transformer of the interface. The tone switching in the pad is interesting in that when one pushes any two adjacent buttons in a row or column a single tone occurs. If a single button is pressed a combination of two tones is present. Figure 3 is an outline drawing of the printed wiring board that is seen if you look at the back of the pad. Notice that there are two transformers with adjustable cores labeled T1 and T2. To calibrate the pad, press buttons 4 and 5 simultaneously and adjust the core of T1 to obtain a reading of 770 Hertz. Then release buttons 4 and 5 and press buttons 8 and 0 simultaneously. Adjust the core of T2 to obtain a reading of 1336 Hertz. That is all there is to it but you may want to consult Table 1 to be able to check all of the frequencies that the pad generates. Notice that the tolerance for the tones is plus or minus 1.5% from the nominal value. You will be in trouble if you have a tone that is out of tolerance. How much trouble will depend mostly upon the band width of the tone decoders in the repeater's autopatch unit. Happy autopatching and do remember to observe the proper procedures and uses of an autopatch. We do not want the priviledge taken away from us.

GASTON COUNTY ARC NAMES NEW OFFICERS

The Gaston County Amateur Radio Club has elected new officers for the coming year. They are: Bill Martin, K4AFU, pres.; Terry Isenhour, WA4OPO, VP; John Wallace, K4JDD, Treas.; and Manson Long, WA4TIL, Secretary.

Elected to the Board of Directors were: Jack Lucas, W4AOJ, Cy Rowe, WA4FSA and Bill Cook, W4REW.

The Gaston County ARC operated the 72-12 repeater in Gastonia. The club meets 1st Monday of each month at 7:00 p.m. in the Community Room at Eastridge Mall in Gastonia. The group reports an autopatch facility is planned for installation in the near future on WR4ATP. It should be operational on or about the time the Journal comes out.



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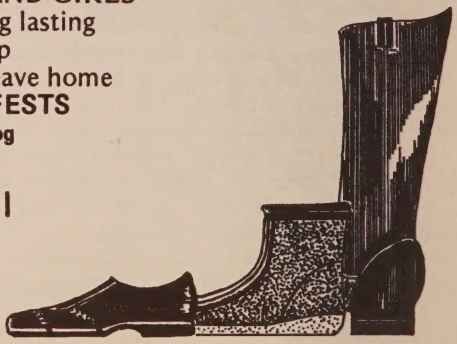

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Editorial Cont.

Each repeater owner, each repeater user is a potential news source. If anything happens in your area you feel would be of interest to the Journal readers, take a moment to jot it down. If you don't have complete information, send what you do have, being sure it's accurate. On the back cover of the Journal is listed the various State Directors and his Assistants, and on Page 2 of the Journal is the News Staff of the Journal. Any of these people receive news and relay it to the Editor prior to deadline.

Our Journal does not have a shortage of news by any means. We place priority on news items within our 3 states, but important happenings from the FCC and many features from outside come in. We receive dozens of Newsletters from different Clubs and Repeater organizations which interesting information is taken.

So, we never have to throw trivial things in the Journal to fill it up. We can, however, find room for more stories on the 3-state level, as long as they get in by the deadlines so we have some idea of what is available for the Journal.

The deadline for this Journal was April 1st. By that date, we have already started sending copy to the printer. By the news deadline to the printer of the 10th, we have just about wrapped up the Journal, with the exception of the repeater index, club calendar, Net Register and a few other late breaking items. So with the time element of slightly over a week to put the news end of the Journal together, we have to get a head start. If your news item is late, it might not be possible to get it in.

We encourage you to get your stories to the Directors early, so he can get it to the editor by the 1st of the month prior to publication month.

We would like to write about every repeater, but we cannot call and ask "what's up", they've got to send it to us. With our budget, we have to keep expenses to a bare minimum.

We appreciate your help. We want the Journal to be the best, and you can help make it that way!

—Wayne C. Williams, Editor

ANTIQUE WIRELESS ASSN. TO HOLD MEETING IN WINSTON-SALEM

The Antique Wireless Association will hold its Regional Conference, Southern Meet in Winston-Salem, June 9-10 at Holiday Inn North on North Cherry Street.

Registration will begin Thursday afternoon, and Friday morning. Seminars and special events will begin at 3:00 p.m. Friday, with Hospitality room free to AWA guests. Seminars and talks will continue Saturday morning and continue throughout the afternoon. Saturday evening will begin with a Social Hour, followed by a banquet, then awards and prizes. Ralph Williams, N3VT, will be the special guest speaker.

All activities will be held in the motel. Tables will be available for flea market displays. Special ladies programs, with tours will be held throughout the weekend. Further information may be obtained by contacting L.W. Elias, W4DBT, 3939 Poindexter Drive, Winston-Salem, N.C. 27106, (919) 924-2162. Everyone is welcome to come. (Lew, W4DBT)

CVRA JOURNAL AFFILIATED WITH AMATEUR RADIO NEWS SVC

The CVRA Journal has joined the world-wide Amateur Radio News Service. With this service, Journal Editors feel a much better measure can be made of what is happening around the country with Amateur Radio. With the swapping of ideas and news stories, it was felt that the ARNS would be a definite asset to our newsgathering organization.

The ARNS is a world-wide organization, founded in 1965 to provide a vehicle for exchanging ideas among Amateur Radio Operators who are concerned with club newsletters, Journals, such as ours, and/or public relations.

The monthly ARNS BULLETIN contains helpful hints in each issue. News items, articles and other material in a lighter vein will make for interesting reading.

President of the voluntary ARNS is Art Ross, W5KR and ARNS BULLETIN editor is Ralph V. Anderson, KONL.

Editor of the Journal, Wayne C. Williams, K4MOB said, "We are always looking for ways to improve our magazine. We glean news from some 25 newsletters from across the country. We are quite pleased at receiving an invitation to join the ARNS. I feel with the quality of the CVRA Journal, and its massive following, that being affiliated with the ARNS will benefit Amateur Radio public service and news for us, and them."

CVRA DIRECTORY ASSISTANCE WHO TO CONTACT FOR WHAT

Listed below are various officers or members of the CVRA staff, and what part they are responsible for in the organization. If you have any type problem or questions, you should be able to find the right man with this list. After you find the right officer, look on Page 1 or 2 in the Journal for his name, address and phone number.

JOURNAL EDITOR

Clubs, organizations, associations send all news to the Editor. He is responsible for gathering, editing and otherwise takes care of ALL contents of the Journal pertaining to news. (Various repeater groups can also send items to their State Director for relay to the Editor)

TECHNICAL EDITOR

Send all Technical articles to appear in the Journal to the Technical Editor. He will edit copy, write technical articles and relay to the Journal editor.

JOURNAL SALES MANAGER

Amateurs wishing to place Classifieds, Business Cards or any form of advertising in the Journal should contact the Advertising & Sales Manager. Businesses or anyone wishing to place Display Advertising in the Journal should contact the Sales & Advertising Manager also.

PRINTING COORDINATOR

Anyone with questions as to the printing of the Journal, should contact the Printing Coordinator for information.

CIRCULATION MANAGER

Anyone not receiving their Journal in the mail, or wishing information about Journal mailing or Associate membership should contact the Circulation Manager.

PRESIDENT-VICE PRESIDENT

Anyone with questions regarding the overall CVRA, or wishing to schedule meetings, or sessions should contact the President or Vice President of the CVRA.

FREQUENCY COORDINATING COMMITTEE

Any member who has questions as to Frequency Coordination, or wants information as to how to get Frequency coordination should contact the Chairman of this committee.

STATE DIRECTOR

Repeater members should send news information to their State Director and his Assistants. Your State Director is the man to contact when you have interference problems, want to get a frequency coordinated, are having any problems where you want the CVRA to assist you. Your State Director is the most important man you can contact in your area.

ASSISTANT & VICE DIRECTORS

The Assistant and Vice Directors are placed strategically across your State. You can rely on him to work with you with any type problem. He will relay to the State Director any information you have for him.

ASSOCIATE MEMBERSHIP CHAIRMAN

If you want to join the CVRA as an Associate Member and receive the Journal, contact your Associate Membership Chairman. If you have any questions as to Associate Membership in the organization, or you didn't get your Journal, you need Associate membership blanks, contact the Associate Membership Chairman or his assistants.

REPEATER MEMBERSHIP CHAIRMAN

Your Repeater Membership Chairman is responsible for keeping records of all repeaters who have joined the Association. He keeps the State Directors, Journal Editor and other officers informed as to which repeater belongs to the CVRA and who doesn't. If you have any repeater membership questions contact him for assistance.

SECRETARY-TREASURER

Responsible for all records and transactions of the CVRA. The treasurer receives all income and makes disbursements when necessary on behalf of the CVRA. Any questions as to finances of the CVRA should be directed to the Treasurer.

NEW PREFIXES FOR PACIFIC AND CARIBBEAN ISLANDS

The FCC announced effective March 24, new prefixes will be available for U.S. Pacific and Caribbean Island Amateurs. The new callsigns will slowly be phased into the Amateur population, as existing calls come up for renewal, and newly licensed hams come on the air.

The new prefixes are KH for Pacific Islands, and KP for Caribbean Islands. In the Pacific, they are: KHl, Canton; KH2, Guam; KH3, Johnson; KH4, Midway; KH5K, Kingman; KH5, Palmyra; KH6, Hawaii, KH7, Kure; KH8, Samoa; and KH9, Wake.

In the Caribbean: KPI , Navassa; KP2, Virgin Is.; KP3, Serrana Bank, and KP4 Puerto Rico. Other spots such as the Marshall Islands and Guantanamo Bay are not FCC administered, so remain unchanged. (HR Report)

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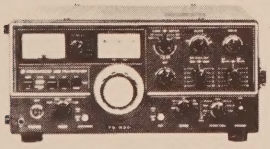

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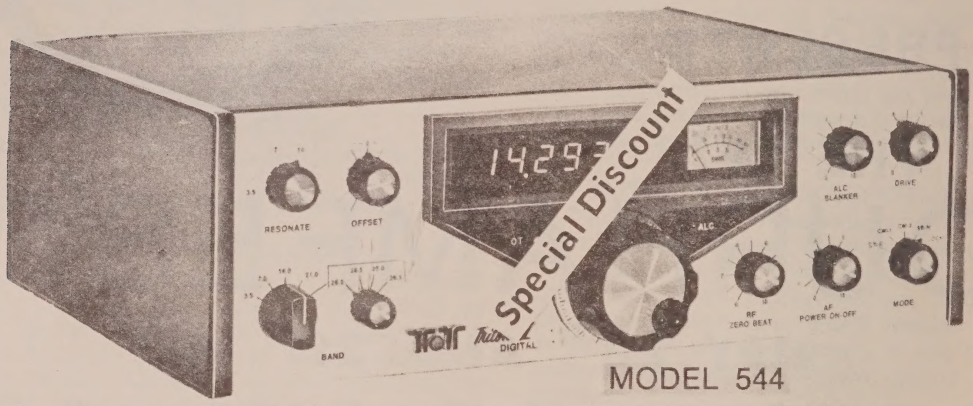

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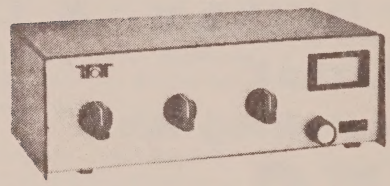

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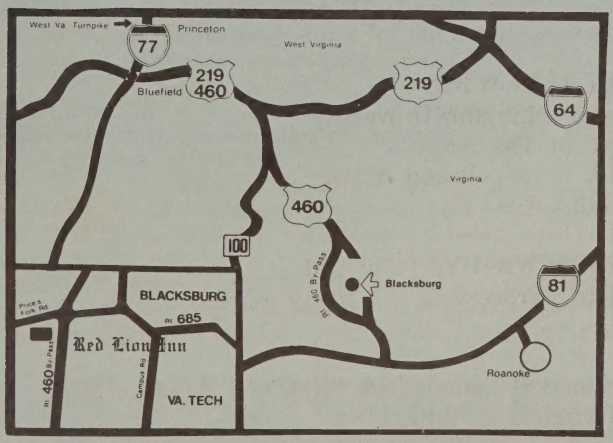

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SOUTH CAROLINA NEWS

SUMTER. . .The Feb. Journal announced the construction of a new 220 mhz repeater by the Hillcrest Ham Radio Club in the Sumter area. Work is progressing well with an operational target date of July 4th. A typographical error was made in the last sentence which indicated the club also operates the Sumter/Shaw 04-64 2-meter repeater. This was an error and should have read 66-06 2-meter repeater. Our apologies (K4MOB)

GREENVILLE. . .The Foothills Amateur Repeater Assn. has announced the plans for construction of a 220 mhz repeater for Greenville. This is the 3rd 220 mhz repeater announced in South Carolina. The group coordinated 222.32-223.92 through the CVRA Frequency Coordinating Committee. No target date for on-the-air was announced. The group is a Full Member of the CVRA. (W4AZT)

GREER. . .Another 220 mhz repeater has been announced under construction by the Experimental VHF Assn. of Greer. The frequencies of 222.38-223.98 has been coordinated for the planned new 220 machine. (W4AZT)

GREENVILLE. . .220 mhz Repeater for South Carolina is also planned for Greenville. The machine to operate on 222.46-224.06 is being constructed by the Altamount Amateur Radio Club of Easly. No date has been set for the machine to be completed. (W4AZT)

GREENVILLE. . .A new two-meter repeater to operate on 147.675-147.015 is in the planning stage. The Greenville RTTY Society is constructing the machine. It is not known whether plans for this machine are for RTTY or voice or both. (W4AZT, K4MOB)

SUMTER. . .A new split/split 2-meter repeater is planned for Sumter. The machine to operate on 147.615-147.015 was announced recently by the Sumter Area AR Repeater Association. No announcement has been made as to when the machine will be operational. (W4AZT)

CHERAW. . .A 2-meter repeater is planned for Cheraw in the near future. The machine, to operate on 147.63-147.03 will be the first one for this South Carolina city. The Chesterfield County ARS is coordinating construction of the machine. (W4AZT)

LITTLE MOUNTAIN. . .A new 81-21 repeater is planned for the Little Mountain area. Paul Marsha, K4AVU is listed as announcing construction of the new machine which will serve the Columbia area of South Carolina. (W4AZT)

MARION. . .A new 40-00 repeater is soon to be constructed for the Marion area, by Wayne Cook, WB4SFM. This will be the first 2-meter machine located in the city of Marion. (W4AZT)

ORANGEBURG. . .The Orangeburg, WR4AQY repeater continues good coverage of the area. The Orangeburg ARC VHF Net meets at 1900 each Tuesday on 69-09. "J.D." Black is net manager. The club meets each 2nd Thursday of the month. (Buck, WA4TUN)

FLORENCE. . .The newly reorganized Florence Amateur Radio club placed their new repeater in operation the last week of March. The Specialty Comm. SCR1000 is located near the junction of I-95 and I-20. The machine is operating on the CVRA coordinated frequency of 25-85. The club planned QSLing all contacts made through the machine in its first few weeks of operation. The machine's call is W4ULH/Rpt. (Len, WB4USY)

TECHNICAL TIP

If you have 10% reflected power, your antenna's SWR is 2:1. Actually it is 1.94:1 but 2:1 is an easy number to remember. Along the same line, 4% reflected power gives a 1.5:1 SWR. Remember, though, to get a true indication of SWR, especially below 1.5:1, it is very important that you can accurately measure the forward and reflected power.

(WB4EXW—Watson)

NORTH CAROLINA NEWS

BURLINGTON. . .The 07/67 repeater now has a new addition to the machine, a recording which welcomes hams to the area, gives autopatch usage instructions and other information. So if you want to hear a very nice feminine voice, send the "7" and "3" tones to WR4AKY. (Braudie, WA4HBQ)

ASHEBORO. . .A new repeater was placed on the air in Asheboro in late February. The machine operating on 147.855-147.255 has mobile coverage 40 to 50 miles around Randolph County. The machine, is located at the Oakie Mountain Tower site of Asheboro Broadcasting Co (WGWR). Antenna height is about 400 feet, H.A.A.T. Ed Swicegood, WD4AIB is trustee, with Bill Hodges, WD4AIF, 2nd representative as full membership to the CVRA. WR4AOE/4 is a G.E. Prog. Line transmitter running 50 watts into a "J" pole antenna. The Solid State Receiver with pre-amp and crystal filter located at the Stationmaster antenna. The machine has autopatch capabilities, and is part of a link into Raleigh 28-88. Link-up from the west is accessed through 147.525 and fed through to the Raleigh machine, giving capability of QSOs from Charlotte and West to Raleigh and East. Amateurs are invited to use the facilities and links, if at any time the link is not up--members of the group at any point can tone it into operation for you. (Ed, WD4AIB)

FAYETTEVILLE. . .The WR4ANN, 31-91 repeater has a new Phelps Dodge Model 200 Receive Antenna with new hardline, giving the machine much better hearing. Users are reporting good results from the improvements. ("Dub", W4VTP)

CARY. . .The 52.35-53.35 6-meter repeater in Cary was due to go off the air for a short period during April to move the transmitter site. The machine, WR4AVP has been doing well, giving consistent coverage in Raleigh, Cary, Chapel Hill and Durham. The move will improve coverage. (S.J. Brothers, WA4NRR)

ELIZABETHTOWN. . .A group of Amateurs in the Elizabethtown, Clarkton, Whiteville (N.C.) area are forming a club and planning installation of a repeater in the Elizabethtown area to help fill the dead spot between Fayetteville and Wilmington. Most of the repeater equipment will be donated by Mike Holt, W4DCD. The frequency of 146.175-146.775 is being coordinated with the CVRA Frequency Coordinating Committee. The group at their April meeting hoped to establish a repeater site, and get the repeater on in late April or early May. (tnx, Ken Parker, WD4LVM)

KINSTON. . .The ENC Repeater group, operators of the Grifton (N.C.) 16-76 repeater report the machine continuing good coverage in East-Central North Carolina. The group held its annual membership meeting April 9 in Greenville. The Emergency net meets each Thursday night at 8 p.m. on WR4ABP. The club encourages participation as they approach the hurricane season. The ENC group numbers well over 100 members and not only is the repeater a full member of CVRA, but EVERY club member is an Associate Member of CVRA. (Bill Page, WB4LWX)

GREENSBORO. . .The Greensboro, WR4AOD repeater now has a new G.E. Master Pro machine. The 16-76 users will notice better coverage and quality on the new solid-state repeater. Owners also replaced some 200 of the 600 feet of hardline, damaged by the winter months. The Greensboro Repeater Club expresses thanks to many who devoted time, money and effort toward getting the new equipment purchased and on the air. (WB4GGF, John)

LUMBERTON. . .The Lumberton 81-21 repeater was closed down permanently the first of the year. WR4AUA, according to Charles M. Brady, Jr., WB4DVN, was operated by the Lumberton Amateur Radio Club. (Charles, WB4DVN)

GREENSBORO. . .A letter to Herman Cone, WB4DBB, Freq. Coord. for CVRA from the Greensboro ARA reads in part: "This letter is to officially inform you, that after careful consideration, and 5 months of careful testing, the members of the Greensboro Amateur Radio Association have overwhelmingly voted to keep repeater WR4BBE on 01-61." The machine was formerly on 87-27, and after experiencing difficulties with a nearby 87-27, moved to 01-61. (K4MOB, Wayne)

VIRGINIA NEWS

DANVILLE. . .A group of Amateurs at the Danville Community College are in the process of building a repeater for the local Danville area. The group planning to join the CVRA has the frequency of 146.325-146.925 coordinated by the Frequency Coordinating Committee. The group is a member of ARRL and has the club call WB4GJG.The machine, planned for local coverage for the city, will be located at the DCC campus and be operated and maintained by DCC Electronics students and licensed instructors. (K4AUG, Wayne & WA4JIY, Mike)

COVINGTON. . .The new Covington repeater operating on 22-82 is covering a large portion of Southern and Western Virginia. Stations as far away as Danville and Appomattox can access the WA4HTI repeater. (Mike, WA4JIY)

CHESTER. . .The Petersburg 99-39 machine has been moved to a new location in Chester, Va. The antennas are about 100 feet higher than at its previous site with coverage greatly improved. The repeater now operates under the call of W4LGG/R. (Carter, K4ARO)

PETERSBURG. . .The Petersburg 90-30 repeater has instituted the special running of ARRL Bulletins each evening on the machine. (Carter, K4ARO)

RICHMOND. . .The 28-88 Richmond repeater is operating quite well now, with replacement of the defective antenna and water-filled hardline. (Carter, K4ARO)

SOUTH HILL. . .The South Hill 84-24 repeater will soon have a new Wacom duplexer in operation. Range is expected to improve substantially when the new duplexer is in full operation. (Carter, K4ARO)

TAZEWELL. . .A new 147.75-147.15 repeater is planned in Tazewell, Va. in the near future. Exceptional coverage is expected from the machine. No other information is available at press time. (Carter, K4ARO)

SOLAR ENERGY EXPERIMENTATION FOR QRP TRANSMISSIONS

Robert D. Null, N4QR, of Maiden, N.C. tells the Journal he is working on solar energy to power his 2-meter rig and QRP CW transmitter.

Null said he is using two 12V-4A/H Ni-cd's and silicon photovoltaic generator panels. With these panels, he is getting enough power to supply his Regency HR-2B 2-meter transceiver in the 1-watt mode. He is also powering his Heathkit HW-8 CW transceiver running 3 watts.

N4QR said with an 11-element Cushcraft beam, he is successfully working repeators in Shelby, Salisbury, Hickory, Roaring Gap and Asheville. He also works the Salisbury Morganton link-up. (This link is now down.)

Robert said he is anxious to correspond with any other Amateurs who are interested in solar electricity and its uses. His address is: Robert D. Null, N4QR, 501 North First Avenue, Maiden, N.C. 28550.

SECOND 2-METER REPEATER PLANNED FOR EAST RIVER MT.

The East River Amateur Radio Club plans to erect a second repeater on East River Mountain near Bluefield, Va. Elevation will be approx. 4300 feet above sea level.

Don Williams, WA4AUA, of the club said the equipment is on order. Effective radiated power will be around 80 watts, using VHF Engineering equipment. The machine will have autopatch and emergency power. Coverage is expected in Northwestern North Carolina, Northeastern Tennessee, Eastern Kentucky and Southeastern Ohio, in addition to the primary area in Southwestern Virginia and Southern West Virginia.

The group is coordinating through the CVRA, West Virginia Council and information to the Tennessee, Kentucky, Ohio and T-MARC. The frequency of 90-30 has been mentioned, however, no decision has been made at press time. (WA4AUA, Don)

THE TORNADO SEASON IS HERE

The bright sunny days we've seen over the past month bring something else with it. The month of April, and peaking in May is the tornado season for this area of the country. Violent weather often accompanies the pleasant conditions.

The National Weather Services advises these precautions when a tornado warning is issued:

—If you are outdoors, lie face-down in a ditch.

—If you are driving a car or truck, go away from the storm if there is time, or, if there isn't, get out and lie in a ditch.

—Residents of mobile homes should go to stronger buildings if possible or go outside and lie in a ditch.

—Avoid buildings with large roofs supported by walls, such as gymnasiums or auditoriums.

—Occupants of buildings with large amounts of glass go to the basement or an interior corridor.

—At home, go to the basement or, if there is not one, to a closet, bathroom or other small enclosed area on the lowest floor of the house.

We Amateurs can do our part, too. Join and participate in your Emergency nets. Practice with your fellow hams, so if disaster does strike your city, you will know how to react and what to do when you are called upon for Emergency communications.

Our area averages 8 to 9 tornadoes a year, one could hit very near, so be ready.

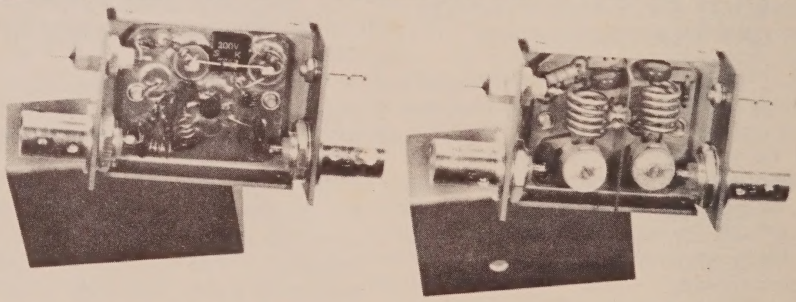
CVRA INFORMATION NET NOW ON 220 MHZ AND 2-METERS

The CVRA Information Net, has been going strong for about 6 months now on the Sauratown Mt. 223.28-224.88 repeater each Wednesday night at 8:30 p.m.

On April 5, the net was begun on the Greensboro 16-76 repeater at 9:00 p.m. on Wednesday nights.

The purpose of the CVRA Info Net is to pass information to local amateurs news about repeaters, FCC changes and Hamfests, and any other information available to net control through the ARRL, FCC, and CVRA. The net does not handle traffic (except of an emergency nature) enables participants to ask any questions concerning repeaters, UHF & VHF or Amateur Radio in general they might wish to know. Active participation has been seen on 220 mhz, and 2-meter participation is growing with each net, as it becomes known to area amateurs in Guilford County (N.C.) and surrounding counties. (Wayne, K4MOB)

LUNAR 28-432 LOW NOISE FIGURE RECEIVING PREAMPLIFIERS



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	NORTH CAROLINA	SOUTH CAROLINA	VIRGINIA
01-61	Greensboro,New Bern	Greenville,Myrtle Beach	Lynchburg,Brumley Mt.
04-64	Raleigh, Hendersonvle,Win.-Salem.	--	Richmond
055/655	Concord,Kann.	--	Alexandria
07-67	Burlington, Forest City	--	Brn. Springs,Lexington,Wmsburg.
085-685	Statesville	--	--
10-70	Laurinburg	Lancaster,Charleston,Greenvle.	White Oak Mt., Norfolk
115/715	Fayetteville	--	--
16-76	Grifton,Greensboro,Asheville	Charleston, Columbia	Bluefield(W.Va.),Forest/Lynch Charlottesville
19-79	High Point	Toccoa (Ga.)	Chesapeake, Fairfax
205-805	Gastonia	--	--
22-82	Durham, Roaring Gap,Wilmington	Greenville	Winchester,Arlington,Covington
235-835	--	Lancaster	--
25-85	Hickory, Reidsville,Seven Springs	Laurens, Florence	Portsmouth
28-88	Raleigh, Shelby	Columbia, Savannah (Ga.)	Richmond, Roa./Salem
31-91	Fayetteville,Lexington,Murfreesboro Asheville	--	Tyson Cnr., Farmville, Blacksburg
325-925	--	--	Danville
34-94	Aurora,Durham, Manteo, Charlotte, Jacksonville	Charleston, Columbia,Greenville	Hampton,Roanoke,Galax,Staunton, Richmond
37-97	Mt. Airy, Smithfield,Kings Mt.	Anderson, Florence,Savannah,(Ga.)	Bull Run, Va. Beach, Roanoke
385-985	Albemarle	--	Roanoke
40-00	High Point,Jacksonville	Pickens, Marion	Suffolk
43-03	Erwin	Rock Hill	Blacksburg, Newport News
46-06	Charlotte, Elizabeth City	--	South Boston
475-075	Burlington	--	--
615-015	--	Sumter	--
63-03	Greensboro	Cheraw	--
645-045	--	Greenville	Dublin
66-06	Maco	Sumter/Shaw	--
69-09	Greenville	Orangeburg, Spartanburg	Briarpatch Mt.
705-105	Marion	--	--
72-12	Greensboro, Rocky Mt., Gastonia	--	Culpepper
75-15	Morganton	--	Tazewell
765-165	--	Greenville, Greenwood	--
78-18	Charlotte, Sanford	Dorchester	Petersburg
795-195	Lake Toxaway	--	--
81-21	Greensboro, Gastonia	Little Mt.	McLean, High Knob, Wise Winterpock
825-225	Hillsborough	--	--
84-24	Franklin, Shelby, Eden, Pine Bluff	--	--
855-255	Asheboro	--	--
87-27	Benson, Waynesville, Johnson City, (Tn)	Clemson, Charleston	Gum Springs
90-30	Lexington	--	Petersburg, Berryville
915-315	Kennersville	--	Alexandria
93-33	Lenoir, Fayetteville	N. Augusta	Cole Mt.
945-345	Shelby	--	Danville
96-36	Boone	Columbia	--
99-39	Charlotte	--	Chester, Martinsville

NON-STANDARD REPEATER PAIRS

225-835	--	Columbia	--
30-90	Indian Trail, Monroe	--	--
38-98	Durham	--	--

VIRGINIA REPEATERS

146-147 (2 Meters)

Alexandria	WR4AXB	146.055	146.655	N	
Alexandria	WR4ATZ	147.915	147.315	M	
Arlington	WR4AQP	146.22	146.82	M	
Barren Springs	WR4AFQ	146.07	146.67		
Berryville	WR4APE	147.90	147.30	N	
Blacksburg	WR4AXT	146.31	146.91	N	C
Blacksburg	WR4	146.43	147.03	N	C
Bluefield(W.Va.)	WR4AXS	146.16	146.76		A
Briarpatch Mt.	WR4AHR	147.69	147.09		L
Brumley Mt.	WR4ATJ	146.01	146.61	N	
Bull Run	WR4ADZ	146.37	146.97	N	T
Charlottesville	WR4ATL	146.16	146.76		
Chesapeake	WR4ACN	146.19	146.79		PA
Chester	WR4AWC	147.99	147.39		
Covington	WA4HTI	146.22	146.82	N	
Culpepper	WR4BCS	147.72	147.12	M	
Cole Mt.	WR4BCI	147.93	147.33	M	
White Oak Mt.	WR4BDN	146.10	146.70		
Danville	WR4	146.325	146.925	N	P
Danville	WR4AHG	147.945	147.345	N	
Dublin	WR4AFQ	147.63	147.03	N	P
Fairfax	WR4AAD	146.19	146.79	M	
Farmville	WR4ASW	146.31	146.91		
Forest/Lynch	WR4ADY	146.16	146.76		A
Galax	WR4AHR	146.34	146.94		C
Gum Springs	WR4BBI	147.87	147.27		
Hampton	WR4ALW	146.13	146.73		
Hampton	WR4AFT	146.34	146.94	M	T
High Knob	WR4	147.81	147.21	N	P
Lexington	WR4	146.07	146.67	N	P
Lynchburg	WR4AXO	146.01	146.61	N	
Martinsville	WB4HAD	147.99	147.39		
McLean	WR4APC	147.81	147.21	R	A
Newport News	WR4	146.43	147.03	N	C
Norfolk	WR4ANT	146.10	146.70	N	O
Petersburg	WR4BDX	147.78	147.18		A
Petersburg	WR4ATB	147.90	147.30		
Portsmouth	WR4	146.25	146.85	N	C
Richmond	WR4	146.04	146.64	N	C
Richmond	WR4BBZ	146.28	146.88		PA
Richmond	WR4ADI	146.34	146.94	N	T
Roanoke	WR4AMQ	146.13	146.73	N	C
Roa/Salem	WR4AFE	146.28	146.88		L
Roanoke	WR4AHT	146.34	146.94	N	
Roanoke	WR4AFY	146.385	146.985		
South Boston	WR4AYU	146.46	147.06	N	A
South Hill	WR4BBU	147.84	147.24		
Staunton	WR4ACL	146.34	146.94	N	
Suffolk	WR4AKS	146.40	147.00		A
Tazewell	WR4QKH	147.75	147.15	N	P
Tyson Corner	WR4ABR	146.31	146.91	M	A
Virginia Beach	WR4AAC	146.37	146.97		PA
Williamsburg	W4HTG	146.07	146.67	N	C
Winchester	WR4AGT	146.22	146.82		
Winterpock	WB4SDP	147.81	147.21	N	
Wise	K4AXO	147.84	147.24	N	A
Woodbridge	WR4AII	147.84	147.24	N	A

50 Mhz (6 Meters)

Abington	WR4ATJ	52.01	53.01	N	L
Charlottesville	WR4AYG	52.76	52.525		
Lexington	WR4BCI	52.01	53.01	N	
Norfolk	WR4ATK	53.525	52.525		
Petersburg	WR4	52.55	53.55	N	C

220 Mhz (1¼ Meters)

Tyson Corner	WR4AEY	222.34	223.94	M	
White Oak Mt.	WR4BDN	223.22	224.82		C

450 Mhz (¾ Meter)

Alexandria	WR4ANC	442.05	447.05	N	
Alexandria	WR4AAG	439.25	427.25	N	V
Charlottesville	WR4AYG	444.25	449.25		
Ft. Belvoir	WR4ATJ	444.125	449.125	N	
Paris	WR4ANJ	444.80	449.80	N	
Roanoke	WR4AFY	442.50	447.50		L
Tyson Corner	WR4ARB	444.75	449.75	N	
Woodbridge	WR4AII	444.90	449.90	N	

SOUTH CAROLINA REPEATERS

146-147 (2 Meters)

Anderson	WR4AIO	146.37	146.97		PA
Charleston	WR4BCH	146.10	146.70		A
Charleston	WR4ASP	146.16	146.76	N	A
Charleston	WR4AFX	146.34	146.94	N	T
Charleston	WR4BCP	147.87	147.27		A
Cheraw	WR4	147.63	147.03	N	P
Clemson	WR4	147.87	147.27		O
Columbia	WR4AYE	146.16	146.76		
Columbia	WR4ABA	146.28	146.88	N	
Columbia	WR4ACD	146.34	146.94		
Columbia	WR4	147.255	146.835	N	
Columbia	†WR4AYE	147.84	147.24		A
Columbia	WR4ACD	147.96	147.36		A
Dorchester	W4NAT/R	147.78	147.18	N	
Florence	W4ULH	146.25	146.85		
Florence	WR4AGM	146.37	146.97		PA
Greenville	WR4ADG	146.01	146.61		
Greenville	WR4AHJ	146.10	146.70		PA
Greenville	WR4ADG	146.22	146.82		A
Greenville	WR4ABG	146.34	146.94	N	T
Greenville	WR4	147.645	147.045	N	P
Greenville	WR4	147.765	147.165	N	P
Greenwood	WR4AUE	147.675	147.015		PA
Lancaster	WR4ABM	146.10	146.70		PA
Lancaster	WA4QPN	146.235	146.835		
Laurens	WR4AZM	146.25	146.85		
Little Mt.	WR4ASE	147.81	147.21	N	P
Marion	WR4	146.40	147.00	N	P
Myrtle Beach	WR4AXC	146.01	146.61	N	
N. Augusta	WR4ABB	146.13	146.73		
N. Augusta	WR4ALS	147.93	147.33	N	
Orangeburg	WR4AQY	147.69	147.09		A
Pickens	WR4ADP	146.40	147.00		
Rock Hill	WR4AJO	146.43	147.03		A
Savannah (Ga.)	WR4AKE	146.37	146.97		A
Savannah (Ga.)	WR4AQW	146.28	146.88		
Spartanburg	WR4BDT	147.69	147.09		PA
Sumter	WR4AOI	146.04	146.64	N	
Sumter	WR4	147.615	147.015	N	P
Sumter/Shaw	WR4AUS	147.66	147.06		A
Toccoa(Ga)	WR4AHB	146.19	146.79		
White Hall	WR4AQL	146.31	146.91		

220 Mhz. (1¼ Meters)

Columbia	†WR4AYE	222.30	223.90		
Greenville	WR4	222.32	223.92		P
Greenville	WR4	222.46	224.06	N	P
Greer	WR4	222.38	223.98	N	P
Sumter	WR4AUS	222.34	223.94		

50 Mhz (6 Meters)

Columbia	WR4	52.05	53.05	N	C

450 Mhz. (¾ Meters)

Charleston	WR4ASP	449.10	444.50	N	T

NORTH CAROLINA REPEATERS

146-147 Mhz. (2 Meters)

Albemarle	WR4BBX	146.385	146.985		
Asheboro	†WR4BBX	147.855	147.255		A
Asheville	WR4AEV	146.16	146.76		
Asheville	W4NQA	146.31	146.91		A
Aurora	WR4ABQ	146.34	146.94	N	
Benson	WR4ARL	147.87	147.27		PA
Boone	WR4ATQ	147.96	147.36		
Burlington	WR4AKY	146.07	146.67		A
Burlington	WR4AIF	146.475	147.075		A
Charlotte	WR4AEU	146.34	146.94		A
Charlotte	WR4ALO	146.46	147.06	N	A
Charlotte	WR4ABK	147.78	147.18		
Charlotte	WR4AWQ	147.99	147.39		
Concord/Kann	K4CEB	146.055	146.655		A
Durham	†WR4AGC	146.22	146.82		
Durham	WR4BEK	146.34	146.94		
Durham	WR4AJY	147.38	147.98	N	
Eden	WR4AZX	147.84	147.24		
Erwin	WR4ALY	146.43	147.03	N	
Elizabeth City	WR4ADN	146.46	147.06		A
Fayetteville	WR4BCA	146.115	146.715	N	
Fayetteville	WR4ANN	146.31	146.91		A
Fayetteville	WR4ADK	147.93	147.33		
Forest City	WR4AHA	146.07	146.67		A
Franklin	WR4ALD	147.84	147.24		
Franklin	WR4	147.96	147.36	N	
Gastonia	WR4BAD	146.205	146.805	N	L
Gastonia	WR4ATP	147.72	147.12	N	
Gastonia	WR4AXH	147.81	147.21		
Greensboro	WR4BBE	146.01	146.61		A
Greensboro	WR4AOD	146.16	146.76		
Greensboro	WR4AWZ	147.63	147.03		A
Greensboro	WR4ANP	147.72	147.12		EA
Greensboro	WR4ANL	147.81	147.21	N	
Greenville	WR4AMB	147.69	147.09		A
Grifton	WR4ABP	146.16	146.76		
Hendersonville	WR4ALC	146.04	146.64		
Hickory	WR4ACM	146.25	146.85		
High Point	WR4AFV	146.19	146.79		
High Point	WR4ADT	146.40	147.00		A
Hillsborough	WR4AGC	147.825	147.225		A
Indian Trail	WR4APY	147.30	147.90	N	
Jacksonville	WR4ATW	146.34	146.94		A
Jacksonville	WR4AJG	146.40	147.00		A
John.Cty (Tn.)	WR4	147.87	147.27		A
Kernersville	K4QDM	147.915	147.315		
Kings Mtn.	WR4AYN	146.37	146.97		
Lake Toxaway	WR4AGH	147.795	147.195	N	
Laurinburg	WR4AOX	146.10	146.70		
Lenoir	WR4ARG	147.93	147.33		
Lexington	WR4ABX	146.31	146.91		A
Lexington	WR4BDA	147.90	147.30	N	C
Lumberton	WR4BDQ	147.96	147.36		A
Maco	WR4	147.66	147.06	N	
Manteo	WR4AKB	146.34	146.94		A
Marion	WR4BBN	147.705	147.105		
Monroe	WR4AJX	147.30	147 90	N	
Morganton	WR4AQI	147.75	147.15	N	
Mt. Airy	WR4ACJ	146.37	147.97		A
Murfreesboro	WR4AFB	146.31	146.91		PA
New Bern	WD4JMS	146.01	146.61		A
Pine Bluff	WR4BAR	147.84	147.24	N	
Raleigh	WR4ACF	146.04	146 64		
Raleigh	WR4AOE	146.28	146.88		PA
Reidsville	WR4ADE	146.25	146.85		A
Roaring Gap	WR4AGS	146.22	146.82		
Rocky Mt.	†WR4ADN	147.72	147.12		A
Salisbury	WR4AAA	146.13	146.73		A
Sanford	WB4EJJ	147.78	147.18	N	
Seven Springs	WR4AEF	146.25	146.85		A
Shelby	WR4ABF	146.28	146.88		
Shelby	WR4	147.945	147.345	N	P
Smithfield	WR4BBO	146.37	146.97		
Statesville	WR4AZS	146.085	146.685		
Waynesville	N4SM	147.87	147.27		
Wilmington	WR4AVF	146.13	146.73	N	
Wilmington	WR4AHL	146.22	146.82		
Winston-Salem	WR4ARD	146.04	146.64		A

50 Mhz (6 Meters)

Cary	WR4AVP	52.35	53.35		
Durham	WR4ASZ	52.15	53.15		L
Fayetteville	WR4ADK	52.07	53.07		
Graham	WR4AYO	52.45	53.45	N	P
Hendersonville	WR4ALC	52.01	53.01		O
Hickory	WR4ACM	52.47	53.47		
Raleigh	WR4BDU	52.25	53.25		
Raleigh	WR4ADE	52.05	53.05		
Sauratown Mt.	WR4AOW	52.17	53.17		P

220 Mhz (1¼ Meters)

Asheville	WR4AEV	222.34	223.94		
Durham	WR4ASZ	223.34	224.94		P
Durham	WR4ASZ	222.50	224.10		L
Fayetteville	WR4ADK	222.42	224.02		C
High Point	WR4ADT	222.32	223.92		
Hillsborough	WR4AGC	222.34	223.94		
Lexington	WR4BDA			N	P
Locust	WR4BBA	222.40	224.00		
Mocksville	WB4SNA	222.54	224.14	N	P
Raleigh	WR4BDU	223.04	224.64		
Sauratown Mt.	WR4AOW	223.28	224.88		
Winston-Salem	WR4ARD	223.10	224.70		R

450 Mhz (3/4) Meters)

Asheville	WR4ALE	449.90	445.90	N	C
Burlington	WR4AKY	439.25	427.25		VC
Charlotte	WR4ALO	449.85	444.85	N	
Durham	WR4ASZ	449.35	444.35		
High Point	WR4ADT	447.90	442.90		
Hillsborough	WR4AGC	449.10	444.10		A
Moyock	WR4BBP	447.10	442.10		C
Sauratown Mt.	WR4AOW	448.00	443.00		C

REPEATER SYMBOLS

N	NON Member CVRA	L	Linked
A	Autopatch	C	Under Construction
PA	Private Autopatch	P	Proposed Repeater
EA	Emergency Autopatch	O	Off Air Temporarily
T	Tone Access	V	Television
†	Temporary Call	R	RTTY
		M	T-MARC Member Repeater

VHF NET REGISTER (Local Times Indicated)

TWO METERS - FM

Anderson SC	37/97	WR4AIO	Anderson Radio Club Net	Daily	2000
Asheville NC	16/76	WR4AEV	Western North Carolina Tfc. Net	Tue	2030
Benson NC	87/27	WR4ARL	Johnson ARS Net	Daily	1930
Burlington NC	07/67	WR4AKY	Alamance County ARES Net	M F	2100
Catawba County NC	146.82		Catawba County RACES Net	Mon	1900
Charlotte NC	34/94	WR4AEU	Metrolina 2 Meter Emer. Net	Daily	2100
Danville Va.	10/70	WR4BDN	Last Capitol Service Net	TThSn	2030
Durham NC	34/94	WR4BEK	Triangle Radio Alert Net	Daily	2030
Durham NC	34/94	WR4BEK	Possum Trot Net	MF	0630
Fayetteville NC	31/91	WR4ANN	Possum Trot Net	MF	0630
Fayetteville NC	31/91	WR4ANN	Cape Fear ARS Net	Daily	1900
Florence SC	37/97	WR4AGM	Florence 2 Meter Net	Mon	2000
Greensboro NC	72/12	WR4ANP	Guilford County Emer. Net	Thu	2100
Greensboro NC	16/76	WR4AOD	CVRA Information Net	Wed	2100
Greenville NC	146.52		Brightleaf ARS Net	Tue	2100
Greenville SC	01/61	WR4ADG	Blue Ridge ARPSC Net	Daily	2100
Greenwood SC	765/165	WR4AEU	Abbeville-Greenwood Emer. Net	Tue	2200
Grifton NC	16/76	WR4ABP	ENC Emergency Net	Thu	2000
Laurens SC	25/85	WR4AZM	Laurens City ARES Net	MF	2030
Laurinburg NC	07/67	WR4AOX	Sand Hills Emergency Net	Daily	1930
Lynchburg Va.	01/61	WR4AXO	Lynchburg Two Meter FM Net	Tue	1900
Morganton NC	75/15	WR4AQI	W. Piedmont VHF Net	Wed	2100
Myrtle Beach SC	01/61	WR4AXC	Grand Strand 2 Meter Net	Wed	2100
Orangeburg SC	69/09	WR4AQY	VHF Net	Tue	1900
Raleigh NC	04/64	WR4ACF	RARS Net	MTThF	2000
Roanoke Va.	385/985	WR4AFY	Roanoke Valley ARC Net	Wed	2000
Rocky Mount NC	72/12	WR4ADN	Rocky Mount, ARC	Thu	2030
Salisbury NC	13/73	WR4AAA	Central North Carolina Tfc. Net	Daily	2200
Sumter SC	04/64	WR4AOI	Sumter Repeater Assn. 2 Meter Net	Mon	2130
Virginia Beach Va.	146.52		Virginia Beach AREA Net	Thu	2000
White Hall SC	31/91	WR4AOL	Coastal ARA 2 Meter Net	Thu	2100
Winchester Va.	22/82	WR4AGT	Shenandoah Valley Service Net	Daily	1915
Winston-Salem NC	04/64	WR4ARD	Forsythe County AREC/RACES Net	Wed	2100

1½ Meters (220 Mhz) - FM

Sauratown Mt. NC	3.28-4.88	WR4AOW	CVRA Information Net	Wed	2030
Hillsborough	2.34-3.94	WR4AGC	Piedmont 220 Net	TTh	2100

TWO METERS - SSB/CW/AM

Tidewater Sideband Net	Norfolk, Va.	145.025	Tue	2100
North Carolina S.W.O.T.	Greensboro,NC.	145.100	Tue	2100
Midwestern SSB Net	Cincinnati Ohio	145.020	STTh	2100
S.L.O.T. Net	Greenville,SC	145.110	MWF	2130
Hampton Roads Emergency Net (AM)	Norfolk, Va.	145.800	Mon	2000
Mid Atlantic 2 Meter Net	Washington,DC	145.100	Wed	2100

SIX METERS

Dixie Net (SSB)	Clemson,S.C.	50.125	Wed	2100
Charlotte Hornet Net (AM)	Charlotte, N.C.	50.400	Sun	2100
North Carolina 6 Meter Net (SSB)	Glendale Springs,NC	50.120	Sun	0900
Central Virginia Net (AM)	Richmond, Va.	50.250	Daily	1900
Tidewater SSB Net	Norfolk, Va.	50.150	Tue	2000

LATE ITEM!

Fayetteville announces Hamfest Date Change. New Dates which will probably be in August, were unavailable at press time.

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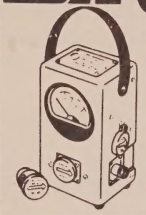
10 watts	–	10A	10B	10C	10D	10E
25 watts	–	25A	25B	25C	25D	25E
50 watts	50H	50A	50B	50C	50D	50E
100 watts	100H	100A	100B	100C	100D	100E
250 watts	250H	250A	250B	250C	250D	250E
500 watts	500H	500A	500B	500C	500D	500E
1000 watts	1000H	1000A	1000B	1000C	1000D	1000E
2500 watts	2500H					
5000 watts	5000H					

the indispensable BIRD 43



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LET'S KEEP THE AMATEURS AND FIRE THE PROFESSIONALS

—by Mike Raffone

Dear FCC:

I'm not sure how I'm supposed to file a petition, but here's a suggestion which you might want to stick a docket number on and throw through the hoppers.

I think the name Amateur Radio ought to be changed. I'm not sure what the right name should be, but "amateur" is definitely out of place. I'll tell you why.

As I listen to the many persons who constantly criticize others on the ham bands, I feel sure that those who can offer their gems, sharpely cut or crudely raw, must be professionals. They find fault with almost everything which occurs and lavish their words of wisdom on any operator who violates their code of perfection. In fact, when someone makes a mistake, the torrent of abuse makes it clear that the person receiving it has not reached the pinnacle of expertise sufficient to be called a professional. Alas, he is nothing but a rank amateur.

It should be evident, then, that we have no room on the ham bands for amateurs.

Let's look at what the word professional means. The field of activity in which we earn a living is what most of us call our profession. But the dictionary puts two other factors ahead of that. the ability to engage in a specialized activity after intensive training and conforming to the ethical and technical standards accepted by a group.

That means that if I study successfully enough to pass my FCC exams and I behave as the rest of my fellow hams expect, I'm a professional. If I don't, I'm an amateur. (Oh, yes, I forgot that you created a whole new class of unprofessional operators and called them citizens)!

Now I'm not sure what I want to be called, but it is obvious that I'll do almost anything to keep from being called an amateur. I hear the word lid a great deal, but again, I'm not sure what that means. Certainly the people who seem to be using the word most are the ones most in need of a lid to cover an opening of an empty container.

"Ham" doesn't seem dignified enough, and besides,the word is often used to indicate performers who are not really all that good, but think they are fabulous. Obviously, it isn't appropriate for radio operators.

I thought of communicator, but then my son came home with a set of CB handi-talkies called Star Trek Communicators and that one was scrapped.

But then after thinking it over, I remember the days when I first started in radio and all the mistakes I made — almost as many as I make today. I really was kind of sloppy. I didn't even approach being halfway reasonable for many years, and the ones who helped me become a better operator were fellow amateurs.

In fact, the recollection of my early days, in the late '40s brings back the image of a local dentist who ran a console kilowatt in the trunk of his specially adapted Cadillac. When he went on 75 meters in our town, no one else did! When I complained that my little surplus converted gear couldn't hack it against the kw mobile, the other amateurs in town all smiled and referred to the big gun in the most damning word around, "He's not an amateur, he's a professional!"

Maybe the radio frequencies allocated to us are big enough to allow a few hundred thousand amateurs to operate. Perhaps not everyone needs a two kw amplifier, an antenna farm or even a deep voice.

Maybe a few of us should be allowed to leave the rig long enough to earn a living, play with the kids, remember what the spouse looks like, and, heaven forbid, engage in some other hobby.

In fact, when I think of what the ham bands would be like without the 24-hour self-appointed watchdogs who are so free with their criticism and so generous with their name calling, I begin to feel that Amateur Radio is really the best name of all. What we really need to get rid of are the professionals! (World Radio News)

2 DAY DURHAMFEST THIS YEAR

The Durham FM Association reports their Durhamfest plans to be bigger this year than ever before. The event will take place May 20 and 21 at the South Square Mall, Durham, N.C. and will feature a 2 day parking deck covered flea market.

Saturday features extensive ladies programs, and shopping in the Mall. Major prizes will be awarded Sunday afternoon. Motel accommodations are nearby, with Mall cafeteria and shops available on Saturday. The probability is good that the Cafeteria will also open on Sunday for the benefit of the Hamfest as last year.

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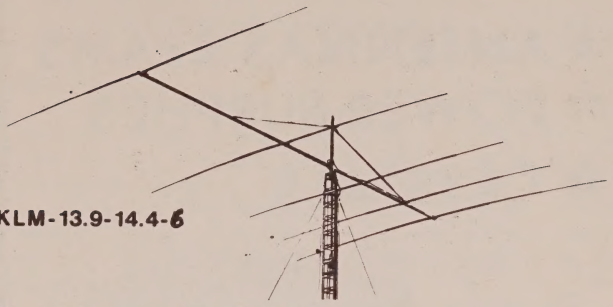
RADIO SALES

NORTH CAROLINA
WAYNE C. WILLIAMS K4MOB
RT. 1, BOX 806, COLFAX, N. C. 27235
PHONE (919) 993-5881 AFT. 5 P.M. AND WEEKENDS



KLM-13.9-14.4-6

KLM 20 meter "Big Sticker"

These high efficiency monobanders provide the ultimate for 20 meter phone and CW perfectionists who insist upon being "first layer" no matter how rare the DX or how tough the contest competition. These beauties have full length elements with driven elements insulated from the boom with KLM's exclusive mounts. Dual driven elements ensure consistently high gain and low VSWR over both phone and CW band segments. In addition, front-to-back and front-to-side ratios are truly superb. New KLM construction techniques simplify and speed up assembly.

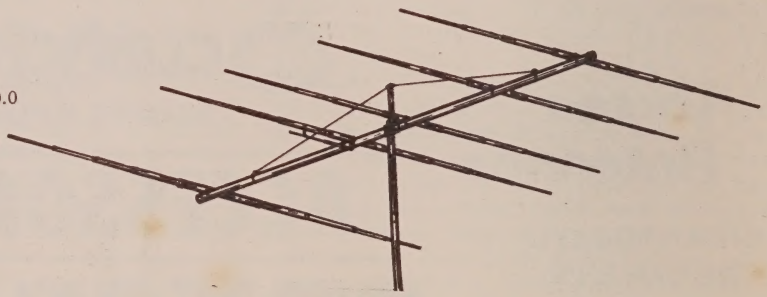
Part No. (for ordering): KLM-13.9-14.4-6
Freq. of operation: 13.9-14.4 MHz.
Elements: Six.
Element length: (Max.) 37.33 ft (11.4M).
Gain: 11.0 ±0.3dbd.
Front to back ratio: 35db typical.
Feed impedance: 200 ohms balanced. (KLM 3-60-4:1 Balun optional).
Boom length/diam.: 57 ft (17.37M). 3 ins. (76.2 mm) D.

Turning radius: 34 ft (10.39M).
Wind area: 12.84 sq. ft. (1.19 sq.M)
Shipping container: 15.25 ft (4.66M) wgt. approx. 130 lb (59KG).
Weight: 95 lbs (43 KG).
Nom. mast size: 2 ins. (50.8 mm)D. Other sizes available. Specify when ordering.

LIST $449.95

SALE $399.95

Band MHz	14 - 21
Maximum Power Input	4 Kw
Gain (dB)	12.0 - 10.0
VSWR (at Resonance)	1.1:1
Impedance	50 ohms
F/B Ratio (dB)	26 - 25
Boom (O.D. x Length)	3" x 40'
No. Elements	5 - 4
Longest Element (Ft.)	35'2"



Turning Radius (Ft.)	26'8"
Mast Diameter	2" O.D.
Boom Diameter	3" O.D.
Surface Area (Sq. Ft.)	15.2
Wind Loading at 80 mph	380
Assembled Weight (Lbs. - Approx.)	110
Shipping Weight (Lbs. - Approx.)	139
Matching Method	(2) Gamma
Requires two feed lines	

M-520 The M-520 offers the discriminating DXer an unexcelled beam antenna that really punches through the QRM . . . ask anyone who owns one! Features 5 full sized elements on a 3" O.D. x 40 ft. boom. Low SWR across the entire 20 meter band.

TELCOM COMPANY

Triad Electronic Communications Company

JOHNNY WOOD K4JEY

In Stock

♦ 4349 KERNERSVILLE RD. ♦ KERNERSVILLE, NC 27284 ♦ 919-784-8833

HERE IS YOUR CHANCE TO DO A LITTLE BIT FOR THE CVRA!

CLIP OUT THE ASSOCIATE MEMBERSHIP APPLICATION HERE ON THIS PAGE AND FIND A FRIEND WHO IS NOT A MEMBER OF THE CVRA. GIVE HIM THE APPLICATION, HELP HIM FILL IT OUT . . . THEN . . . AND THIS IS MOST IMPORTANT! BE SURE HE MAILS IT IN--RIGHT AWAY--WITH HIS FEE. FOLLOW THROUGH ALL THE WAY, SO YOU'LL BE SURE TO GET CREDIT FOR THE MEMBER!

FINALLY, ON THE SPOT INDICATED, BE SURE TO PUT YOUR CALL!

THANKS, WE KNEW WE COULD COUNT ON YOU!

I was responsible for getting this new member! My Call is: _____

ASSOCIATE MEMBERSHIP APPLICATION CAROLINAS-VIRGINIA REPEATER ASSN.

Name _____ Date _____

Address _____ Call: _____

City: _____ State: _____ Zip: _____

Phone: (_____) _____ Member of ARRL? _____

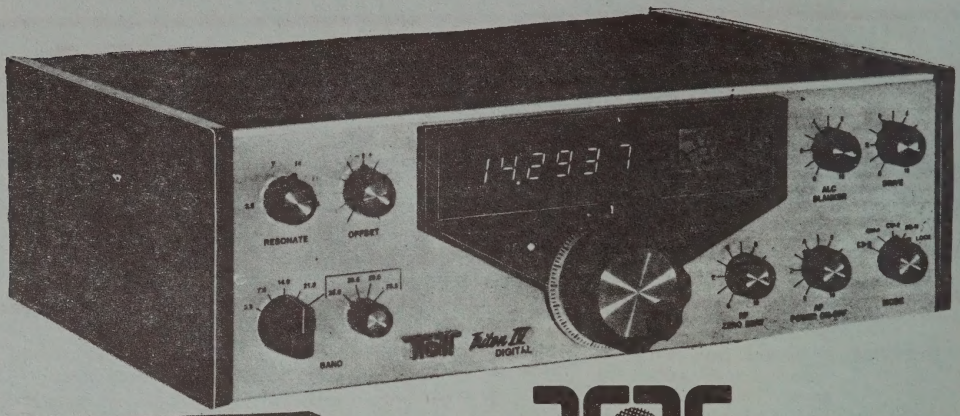
The Repeater I call "home" is: _____

Enclosed is: $ _____ ($2.00 Per Year)
J R

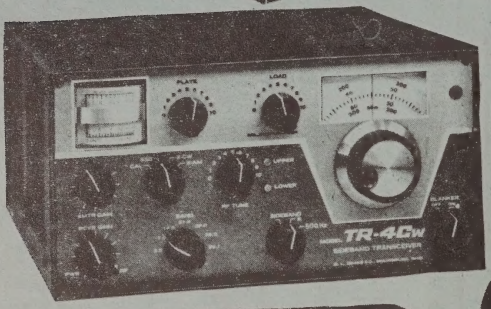
Mail to:
CVRA
P.O.Box 3325
Burlington, N.C. 27215

SUPPORT YOUR CVRA
IT HELPS KEEP OUR
UHF-VHF COORDINATED

RADIO COMMUNICATIONS CO., INC.



TEN-TEC, INC.



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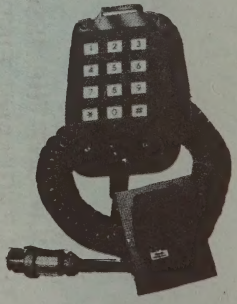
Larsen Antennas

ROHN



RADIO COMMUNICATIONS COMPANY, INC.
311 Shenandoah Ave., N.W.
Roanoke, Virginia 24016
Area 703-342-8513

CLUB MEETING CALENDAR

NORTH CAROLINA

ASHEVILLE - W. Carolina ARS-Bus. 1st Thur. 1900-conf. ru. Health & Soc. Svc. Bldg. Dinner, 2nd Monday, 1900 - Hungry Bull, Patton Ave. (91)
BENSON - Johnson ARS 3rd Thur. 1930 at 50-210 Fire Station WR4ARL (27)
BURLINGTON - Alamance ARC 2nd & 4th Monday 1930, at 230 E. Summit Ave.
BURLINGTON - Alamance Repeater Asso. Inc. Last Sat. 1900 at B & J Cafeteria WR4AKY (67)
CARY - Cary ARC 4th Thur. 1930 at White Plains Methodist Church, WR4AOE (88)
CHARLOTTE - Mecklenburg ARS Last Tue. 1930-Red Cross Bldg on Park Rd. W4BFB/WR4AEU (94)
CHARLOTTE - Charlotte RC 1st Thur. 19-- Club Bldg. - WSOC-TV Tryon St. W4CQ/WR4ALO (06)
CHARLOTTE - Friday Lunch Group Fri. 1200 - Mediterranean Rest. on Independence Blvd.
CONCORD - Cabarrus ARS, 3rd Mon., 1930, Kimball Memorial Lutheran Church, Aux. Bldg., Kannapolis
DURHAM - Durham FM Assoc. - 2nd Tue. 1800 - Picadilly Cafeteria, S. Sq. S.S. (825)
DURHAM - Triangle Radio Alert Network - 3rd Thurs. 1800 Picadilly Cafeteria, S.Sq. S.S. (94)
EDEN/REIDSVILLE - Rockingham County ARC 1st & 3rd Mon., 1900 Wentworth Courthouse
FAYETTEVILLE - Cape Fear ARS 3rd Mon. 1900 - Methodist College, WR4ANN (91)
GASTONIA - Gaston Cty. ARS - 1st Mon. 1900 - Community Room at Eastridge Mall, (12)
GREENVILLE - Brightleaf ARC - 2nd Tues. 2000 - Planters Nat. Bank, downtown.
GREENSBORO - Greensboro ARA, 4th Mon., 1830, Founders Hall, Guilford College, WR4BBE (27)
GREENSBORO - Greensboro RC Fri. 1930-Club House near Friendship Airport, W4GG
GREENSBORO - Piedmont ARS 3rd Fri. 1830-Bonanza Sirloin Pit Rest., High Point Rd.
GREENSBORO - Ladies in Amateur Radio Soc. 1900 2nd Tues., Mbrs. Home, 4th Tues, Apple House Cafe, Guilford College
HIGH POINT - High Point ARC Tue. 1930 - Old Mill Rd. WRAFV (79) & WR4ADT (00)
JACKSONVILLE - Onslow ARC 2nd Sat. 1000 - Howard Johnsons Restaurant WR4AJG (00)
KANNAPOLIS - Cabarrus County ARS 3rd Mon. 1930, Activity Bldg., Kimball Memorial Lutheran Church
LAURINBURG - Scotland County ARS 1st Wed. - Cablevision Office, WR4AOX
LEXINGTON - Healing Springs Mountain VHF Soc. Last Mon. 1930 - Burlington House Furniture Co. Personnel Office W4PAR/WR4ABX (91)
LUMBERTON - Lumberton ARC, 3rd Thu. Robeson County Public Library at 1930
MORGANTON - Morganton ARC, 1st Mon., 1930, W. Piedmont Community College
RALEIGH - Raleigh ARS - 1st Wed. 1930 - W. Community Room, Crabtree Valley Mall (64)
ROCKY MOUNT - Rocky Mount ARS, 3rd Thurs., 1900 Farmer's Restaurant in Sharpsburg (12)
SALISBURY - Rowan ARS & 4th Mon. 2000-Salisbury City Hall, Main Street W4EXU/WR4AAA (73)
SHELBY - Shelby Radio Club 2nd Mon. 1830 Hungry Bull Restaurant, Dutch Supper
STATESVILLE - Iredell City ARS - 2nd Thurs. 1900 - Hall of Justice, Water & Tradd Sts.
WINSTON-SALEM - Forsyth Amateur Radio Club, 2nd Friday - Nature Science Center
WILMINGTON - Wilmington VHF Assn., 2nd Tue. of Jan., Mar., May, July, Sept., & November at Carolina Savings & Loan
College Road Social Meeting in other months at location announced. WR4AHL (82)

SOUTH CAROLINA

ANDERSON - Anderson RC 4th Thur. 1930 - Anderson County Library WR4AIO . (97)
CHARLESTON - Holiday VHF Soc. 2nd Wed 1930 - Pinehaven Shopping Center Meeting Room, WR4AFX
CHARLESTON - Charleston ARS, Inc. - Home Federal Meeting Room, Ashley Plaza S.S.
CHARLESTON - Trident ARC 1930 Thurs. Park Circle Presbyterian Church
CLEMSON - Clemson Univ. ARC - (During school year - posted prior to meeting) (WD4EOG)
COLUMBIA - Carolina Repeater Soc. - 1st Mon. 1930 - S.C. Elec. and Gas Bldg. (94 & 36)
FLORENCE - Florence ARC, Shoneys, 1st Tues. 1930 (W4ULH - 85)
FLORENCE - Florence FM Repeater Assn. 3rd Mon. 1930 Florence Darlington Technical Center
GREER - Greer ARC 1st Mon. 1930 Meeting Location announced monthly, WR4ABG (94)
GREENVILLE - Blue Ridge ARS 1st Tue. 1930 Red Cross Building 3rd Tues. Dinner.
GREENVILLE - The Dutch Lunch Club - Mond. S & S Cafeteria at 1245.
GREENWOOD - Piedmont Tec ARC, 1st Mon. 1930 at Piedmont Tec. WR4AUE (165)
KEEOWEE - Keeowee, Toxaway ARC, 3rd Tues. at Keeowee Toxaway Visitors Center
LAURENS - Caro. Computer and ARA 2nd & 4th Friday 1930, Heritage Federal Savings and Loan Building
ORANGEBURG - Orangeburg ARC - 2nd Thur. 1930 - Quincy's Fam. Steak House (09)
SUMTER - Sumter Repeater Assn. 3rd Mon. 2000 City/County Office Building Conference Room (64)
WALTERBORO - Coastal Amateur Radio Assn. 2nd Sat. 1900, meeting announced on 31/91 net.

CLUB SECRETARIES!! Is your club and meeting times mentioned in the Journa correctly? If you do not have your club listed, or changes occur in the club schedul please send all changes to the Journal Editor and we'll get it changed.

VIRGINIA

ALBERTA - Southern Piedmont ARC - 3rd Thurs. 1900, Southside Va. Comm. Col.
CHARLOTTESVILLE - University of Virginia ARC every other Thurs., 1930 Thornton Hall, W4UVA
CHARLOTTESVILLE - Albemarle ARC 2nd Wed. 1930 at City Courthouse on 4th Street NE, WA4TFZ
COVINGTON - VHF Communications Assn. - 2nd Wed. 1930 at different mbrs. homes (82)
DANVILLE - Danville ARS, 1st & 3rd Friday, 1930 Danville Comm. Col.
FARMVILLE - Southside ARS, 1st Thursday 1930, Hampton-Sydney Col. Farmville, Virginia
LYNCHBURG - Lynchburg ARC 2nd Friday 2000 at Beulah Baptist Church, Leesville Road, K4HEX
MARTINSVILLE - Patrick Henry ARA, 3rd Tues., 1930, 1st National Bank of Martinsville and Henry Ctr.
NEWPORT NEWS - SPARC 1st & 3rd Wed. 1930 at Vepco Building in Hampton, WR4ALW (73)
NORFOLK - Hampton Roads Radio Assn., 2nd Thurs., 2000 Larchmont Library, Hampton Blvd., WR4ACN
NORFOLK - Tidewater ARC, 2nd & 4th Sat., 1000, Fort Norfolk, Hampton Blvd.
PETERSBURG - Crater ARS - 4th Wed. 1930 John Tyler Community College
PORTSMOUTH - Portsmouth ARC, 2nd & 4th Thurs., 11930, Art Center, 420 High Street
RICHMOND - (RATS) 1st & 3rd Fri. 1930 at the stone house in Forrest Hill Park, WR4ACW (88)
VIRGINIA BEACH - Virginia Beach ARC 1st Tue. 1900 at Virginia Beach Recreation Center, WR4AAC
WINCHESTER - Shenandoah Valley ARC 1st/3rd Fri. 2000 Club Building on Grace Street WR4AGT (82)

GUILFORD COUNTY EC FORGES ACTIVE ORGANIZATION

—by Wayne Williams, Editor

Chuck Bino, K4CJZ of Greensboro (N.C.) is your everyday type ham. He likes to work low-bands, 2-meters and experiment. Chuck has constructed several repeaters over the past years, and has become quite qualified in repeater operation.

In 1975, Bino took over the nearly defunct job of Emergency Coordinator for Guilford County. Within a couple of months, he had worked up a good relationship with the city and county. Soon the governmental organization donated a discarded city repeater for Amateur Civil Preparedness use. Bino organized a group, The Guilford County Civil Preparedness Repeater Association, and with their assistance, got the repeater going and on April 27, 1975, the Civil Preparedness 72-12 Greensboro Repeater was on the air. The machine was unique in that it was owned by the city, licensed for Amateur use, and housed in Governmental property, complete with emergency power and all other things to keep a repeater safe.

K4CJZ has been instrumental in getting the City-County Emergency Preparedness plan going, getting the CP to purchase new 2-meter transceivers for Emergency use, and even getting the Civil Preparedness Director, Ed St. Peter licensed as a ham.

Bino for about 18 months also has taught Novice, General and Advance classes at the Guilford Technical Institute. He has been responsible for 92 new amateurs getting their license, and numerous others upgrading.

The Guilford County ARES memberships now stands at greater than 140 members. The WR4ANP repeater conducts the Guilford County Emergency net each Thursday evening and holds numerous transmitter hunts, and communications exercises to keep the members ready in case of an emergency. Code practice was initiated on the 72-12 repeater when it first came on the air and has continued since, with several control stations having code sending capabilities. One, WA4ZAY, Walt, even has a keyboard derived code practice system for the repeater.

Bino designed a reverse autopatch system, that kept amateur operators in complete control at all times, and got the "blessing" of the FCC to operate it. Several nets have featured "guests" from across the country with the reverse autopatch and a WATTS line.

Chuck is married. His wife, Sue, is WA4IHA, and they have two children, Janice and Kenneth. He has been an active Amateur for 24 years, holds Extra class Amateur License and 2nd class Radiotelephone License. He works at Burlington Industries in Burlington.

Guilford County Amateurs are a step ahead of many areas in being ready, should the need occur for emergency communications, due to the dedication of K4CJZ.

TECHNICAL TIP

Got alternator whine on your mobile rig that resists all efforts to filter it out? Don't forget to check the rectifier diodes in the alternator. One or more may be shorted and AC from the alternaor may be impressed on the DC line.

(WB4EXW—Watson)

#SSK-1-K $98
(w/AC power supply)

#SSK-1 $23.95

NEW!

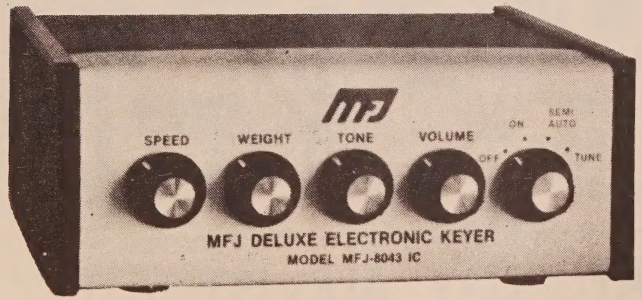
TRAC

Features: **CMOS Electronic Keyer**

- State-of-the-art CMOS circuitry
- Self completing dots and dashes
- Dot and dash memory
- Iambic keying with any squeeze paddle
- 5-50 WPM
- Speed, volume, tone controls, side tone and speaker
- Low current drain CMOS-battery operation
- Deluxe quarter-inch jacks for keying and output
- Handsome eggshell white base — woodgrain top
- Compact and portable — 1-7/8 x 4-1/4 x 6-1/4
- Grid block keying
- Wired and tested — fully guaranteed — less battery

$36.50
plus $1.50 s/h

ELECTRONIC KEYER
$69.95



ICOM

WILLIAMS RADIO SALES

master charge

MICHAEL K. WILLIAMS WA4JIY
620 WESTOVER DR., DANVILLE, VA. 24541
PHONE (804) 793-5163 (TUE.-SAT. 10-6)

your BANKAMERICARD welcome here

1978 SVARC HAMFEST

SUNDAY, AUGUST 6th

CLARKE COUNTY RURITAN FAIRGROUNDS BERRYVILLE, VA.

WR4AGT

SHENANDOAH VALLEY
AMATEUR RADIO CLUB INC.

W4RKC
SINCE 1948

GROUNDS OPEN 8AM

LADIES BINGO

ARTS and CRAFTS
NON COMMERCIAL

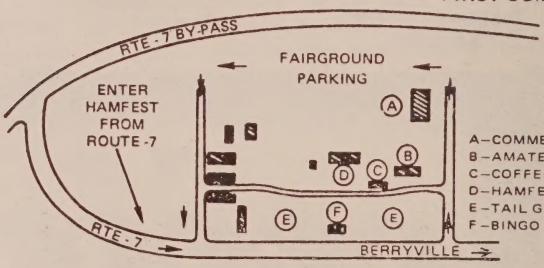
TALK IN
146.22-82
147.90-30
52-52

GRAND PRIZES

AND
HOURLY DRAWINGS

REGISTRATION	1.50
TAIL GATERS	5.00
TABLES BLDG-B	5.00

– FIRST COME BASIS –



A–COMMERCIAL EXHIBIT BLDG
B–AMATEUR EXCHANGE BLDG
C–COFFEE – SNACK BAR
D–HAMFEST HEADQUARTERS
E–TAIL GATE AREA
F–BINGO PAVILION

SNACK BAR
AND
RURITAN'S
FAMOUS
CHICKEN BARBEQUE
DINNER

SATURDAY, AUGUST 5th

BANQUET

DUFF'S REBEL RESTAURANT, WINCHESTER

ROUTE 50, WEST OF I-81

CASH BAR 6 – 7 PM BUFFET 7 PM $7.00

FOR INFO WRITE SVARC BOX 139 WINCHESTER VA 22601

"Transverts"
Your 10M, 6M or 2M
Rig To Higher Bands

Up Your Frequency!

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MICROWAVE MODULES

- Transverters
- Converters
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Specializing in VHF-UHF 50-144-432-1296 MHZ Amateur Equipment

M. W. "Maury" McMahan - (K4GMJ)

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Phone: (803) 288-4671

FCC EXAMINATION SCHEDULE

The following cities and dates include the Norfolk office (District 5) FCC Amateur License examination schedule for the remainder of 1978.

Application form (610) must be submitted to the Norfolk FCC office no later than 2 weeks preceding the examination date. Examinations are by appointment. Persons without an appointment will not be admitted. Applicants who submit 610 forms will be notified by mail of the place, date and time to appear for the examination a week prior to the exam date. You must bring the pass with you to be admitted to the examination room.

SALEM, VA. . . . . .Sept. 6-7
CHARLOTTE, N.C. . . . . July 12-13
WILMINGTON, N.C. . . . . .Nov. 1-2
WINSTON-SALEM, N.C. . . . . June 7-8, Aug. 2-3, Oct. 4-5, Dec. 6-7

Persons wishing to travel to the Norfolk FCC office for examinations, prior appointments are not required. COMMERCIAL RADIOTELEPHONE EXAMS, every Wednesday and Friday, 9:00 a.m. to 12:00 noon.

AMATEUR AND RADIOTELEGRAPH EXAMS, every Thursday at 9:00 a.m. only.

NEW LOCATION - BIG PLANS FOR 1978 GASTONIA HAMFEST

The Gaston County ARC announces their 2nd annual Hamfest. The event this year will take place at Karyae Park at the foot of Crowder Mountain June 10 and 11.

Plenty of free parking will be available with camping sites also available. (No hook-ups). The group said there are nearby campgrounds also with hookups available. Motel accommodations and easy access from I-85 at Gastonia also is featured.

The hamfest will be held under trees, providing much shade from the June sun.

Door prizes, Bingo for the ladies, food on the site and recreation for the children will also be a part of the Gastonia Hamfest.

Tailgating and rental tables are available at the hamfest. For motel reservations contact W4ZPU, Stan Pope at (704) 824-1883. Talk-in frequencies will be 72-12 repeater, 146.52 simplex and on 75-meters, 3923 khz. Dealers wishing to attend might want to contact Charles McKee, WA4BQH at (704) 865-2161. (K4AFU, Bill)

LIMITED SUPPLY

SPECIAL — CONSOLIDATED TOWER MODEL C-16 — SPECIAL

40 Feet $119.95
50 Feet $148.95

Each Tower includes four or five sections which includes one top weight is approx. 160 lbs. and 200 lbs. respectively.

All orders must be prepaid and shipping will be collect.

OFFER GOOD AS LONG AS CURRENT STOCK LAST, ONLY A FEW LEFT AT THIS PRICE.

Having trouble finding clamps to hold large Antennas on poles or in Trees???

We have extra heavy duty clamps that will accept 2¼" OD mast easily. (Only two holes to mount set), also plated to prevent Rust. $27.50.

WEST ANTENNA SERVICE

HARWOOD WEST WB4RLO
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GREENSBORO 27405

COVERING TRIAD AREA ONLY
FREE ESTIMATES PHONE
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FULL LINE OF AMATEUR RADIO AND CITIZENS BAND ACCESSORIES AND EQUIPMENT

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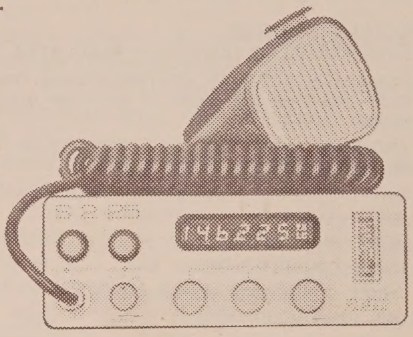
3902 HAMPTON RD & 158
CLEMMONS, NC

AEA
SP25
SYNTHESIZED TRANSCEIVER



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VISA – MASTERCHARGE

SCHNEIDER ELECTRONICS

Repair, alignment and modification of amateur radio gear, using commercial quality test equipment built in SCANNERS for your KDK FM 144 and FM 2015R, ICOM 211 and 245 as well as Kenwood 7400
We install our scanner and ship your rig back to you FREE, by UPS.

SATISFACTION GUARANTEED

John Schneider
WB4VEH

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27407

Phone: 919-855-0261

ASTRON POWER SUPPLIES

• HEAVY DUTY • HIGH QUALITY • RUGGED • RELIABLE •

SPECIAL FEATURES

* SOLID STATE ELECTRONICALLY REGULATED
* FOLD-BACK CURRENT LIMITING Protects Power Supply from excessive current & continuous shorted output.
* CROWBAR OVER VOLTAGE PROTECTION on Models RS-6A, RS-12A, RS-20A, & RS-35A.
* MAINTAIN REGULATION & LOW RIPPLE at low line input Voltage.
* HEAVY DUTY HEAT SINK
* CHASSIS MOUNT FUSE
* THREE CONDUCTOR POWER CORD
* ONE YEAR WARRANTY
* MADE IN U.S.A.

PERFORMANCE SPECIFICATIONS

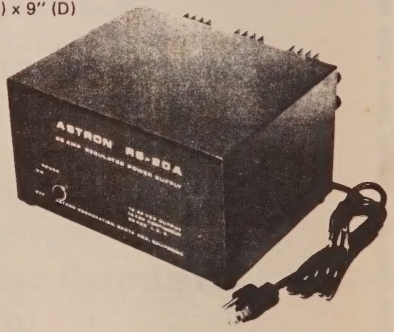
* INPUT VOLTAGE: 105 - 125 VAC
* OUTPUT VOLTAGE: 13.8 VDC ± 0.05 volts
* RIPPLE: Less than 5mv peak to peak (full load & low line)
* REGULATION: ± .05 volts no load to full load & low line to high line

ASTRON 35 AMP POWER SUPPLY
Model RS-35A $129.95 list

25 Amps continuous
35 Amps ICS
5" (H) x 11" (W) x 11" (D)

ASTRON 20 AMP POWER SUPPLY
Model RS-20A $89.95 list

16 Amps continuous
20 Amps ICS
5" (H) x 9" (W) x 9" (D)



ASTRON 12 AMP REGULATED POWER SUPPLY
Model RS-12A $69.95 list

9 Amps continuous
12 Amps ICS
4" (H) x 8" (W) x 9" (D)

"# 1 HAM DISTRIBUTER IN N. C."
W4WAU / WR4BBK

TELEPHONE A. C. 704 249-8734

EVERHART ELECTRONICS CO

P.O. Box 41, Sidney Street
LEXINGTON, N.C. 27292

"TURN IT ON. . .LEMME HEAR IT"

—by Mike Williams, WA4JIY

Editor's Note: Mike, WA4JIY, who's tongue-in-cheek commentary on 2-meter repeater operators last November in the CVRA JOURNAL was later published nationally in WORLD RADIO NEWS. This time Mike zeros in on low band operators in this light-hearted account of the ultimate "appliance operator."

Hello....mmmmm...hello...hellllloooo.....testing, one-two. This is WA4**@. QRZee...this frequency in use?

WA4**@ this is N6%%. Would you please QSY, you're sitting right on a 3D6 station.

N6%%...I believe it is....this is WA4**@. Roger, old man. Sorry. I've got this new antenna tuner and was trying to get my S.W.R. down. I've still got a 1:4 to 1. Don't understand it. How's my signal, old man?

Twenty over nine. Would you please QSY and give us a break. This is the first 3D6 we've heard in 6-land in two years. Over,

Roger on the twenty over nine, old man. Appreciate the signal report in 6-land. I dunno what a 3D6 is. Don't go in much for DX myself. Hello.....mmmmmm.....good..... fourteen hundred watts out that time on my peak-reading wattmeter. Well, I'll say my 73s and let you work that station with the funny call. See you later. If you want a QSL, just drop me one in the mail and I'll shoot one right back to you. We QSL 100% here old man. N6%%.....just can't get use to those N calls..... this is WA4**@ clear.

N6%% clear!

Hello.....hello.....mmmmmm....digital readout shows I'm two khz up frequency. That oughta be far enough away to let the N6 go. CQ CQ CQ CQ CQ CQ CQ CQ CQ CQ CQ CQ CQ CQ.....this is WA4**@. CQ CQ CQ CQ CQ CQ CQ CQ CQ CQ CQ....mmmmmmmm.....hello.....CQ CQ CQ .....WA4**@....go!

WB9*$% this is WA4**@. Thanks for the call. Name here is Phred.....hello.....mmmmm....Phred. Handle here is Phred. QTH is Round Counters, Virginia, and you're five-by-eight on a scotch S-meter on my Super Lazer 500 Mark IV. Running a full gallon with a Lightningbolt 2000 going through a Multi 1200 antenna tuner and a 5000 watt, peak reading wattmeter. Antenna here is a long wire about fifty feet long with a 1:4 to 1 S.W.R.

Does a good job on twenty meters. Just worked a W6. Last month I worked two Canadian stations here on twenty. Go ahead. . .

Fine, Phred. We're running a hundred watts to a four element monobander. Name's Jim. You're about S-7 here.

S-7? Must be something wrong with your meter.

Not that I know of, Phred. You did say you were running a long wire, didn't you?

Roger! With an antenna tuner, it should be doing better than that. The thing cost me two bills, Jim.

You could have gotten a nice beam for that, Phred.

Yeh, well.....mmmmmm.....helloooo....beams are too much trouble to put up. You gotta have a rotor too, and some of them have an S.W.R. of over 1:5 to 1, I hear.....over.

Yeh, well, I don't worry too much about that as long as it gets out and I don't have any t.v.i.

Yeh, Jim, but you should get one of those antenna tuners. Boy, they're something.

I'm using a beam fed with coax. Why would I want a tuner?

To get rid of that S.W.R., Jim. When I was a C.B.er, I learned that standingaves could really kill your signal. Get you a tuner and you can really blow smoke.

I seem to do all right, Phred. I've got 243 countries.

What kinda linear do you run?

I don't have one, Phred. I used to have a homebrew 811A amp, but I'm having fun with low power and trying to get a good antenna system. I operate some c.w. too.

Now you're talking, Jim. You oughta see this little electronic keyer I got. Will grind out sixty words a minute. I get down there and talk to the novices once in a while. They don't copy my keyer too well, though. I like to hear them dits come out at about twenty words a minute.

Great, Phred. How fast can you copy code?

Oh, about ten, I guess. By the way, Jim. I'm going to turn on my speech processor and you tell me if it makes any difference. Hello... uhhh....one, two. Now it's on. How does it sound? Did my signal come up any? WB9*$%, this is WA4**@.

This is WB9*$%. You're breaking up a little, Phred. I can hear the fan on your amplifier. Sounds like you aeronautical mobile.

Turn it back a little.

Okay, How's that, Jim. My a.l.c. shows I'm hitting it about right. They say it helps a lot if

Con't on page 52

CVRA REPEATER MEMBERSHIP REACHES ALL-TIME HIGH

—by Wayne C. Williams, Editor

As the word gets around about the CVRA, and more people join, especially repeater groups and clubs, numbers grow into larger proportions each time you look at them. It is obvious our three State Directors and their Assistants have been doing a very good job of getting the story out to repeaters in their respective states.

Presently there are some 224 repeaters operating or under construction in South Carolina, North Carolina and Virginia on all 4 UHF, VHF bands. Since the CVRA territory stops in Northern Virginia, the figures are 205 repeaters in CVRA territory. The other 19 are in T-MARC territory.

Looking at CVRA Full Membership, we have 137 repeaters listed as members, operated by 112 groups or clubs. This makes overall membership of CVRA stand at 66%. in three States bounded by the CVRA. We are also fortunate to have 3 Georgia, 1 Tennessee and 1 West Virginia repeater groups join us as Full Members.

Some interesting comparisons of how we stand now, compared to last August 1977, when breaking down membership and repeater numbers state by state.

SOUTH CAROLINA

Our Southernmost CVRA state now has 39 2-meter repeaters listed, compared to 31 last August. Membership stands at 26 members or 66.6%. All repeaters in S.C. stand at 46, with 29 CVRA members, or 63%.

NORTH CAROLINA

The Tarheel State remains the largest, as far as repeater numbers are concerned. Some 107 repeaters are listed on the bands, with 82 CVRA members, or 76.6%. N.C. has 78 2-meter repeaters, 59 members for 75.6%. Last August there were 97 repeaters listed with 76 repeaters members of CVRA for a 78% repeater membership.

VIRGINIA

The Old Dominion has 71 repeaters listed, 19 are in Northern Virginia, out of the CVRA territory. Leaving 52 under CVRA, 26 as members we have a 50% membership. There are 56 2-meter repeaters in Virginia with 26 members for 47.7% membership of 2-meter repeaters. (excluding 12 northern).

IN CONCLUSION

The three states with 224 repeaters represents an increase of 33 machines since August 1977. There are presently 173 2-meter repeaters in the 3-state area, 15 6-meter machines, 19 220 mhz. machines and 17 450 mhz. machines listed.

There are still quite a few repeaters in the three states who have not yet seen fit to join the CVRA. Repeater users can be of great assistance. Look in the repeater index in the middle of your Journal. If your home repeater has an "N" beside it, that means it is not a member of the CVRA. Why not ask them. Perhaps they might like to take a portion of your support and pledge it to support an organization such as the CVRA whose main objective is to try to keep interference from your machine, so you can use it.

You support your repeater. . .your repeater supports the CVRA—we all benefit!

COLUMBIA REPEATER SOCIETY MOVING FORWARD IN 1978

New officers for the Columbia (S.C.) Repeater Society are: Jack Watson, W4YPD, Pres.; Gregg Todd, WB4IGR, VP; Becky Fagg, WB4VLY, Sec.; Ted Wood WA4VNZ, Treas,; and Don Boltz, WB4IGK, Trustee.

The Carolina Repeater Society operates the 34-94 and 96-36 repeaters in Columbia. The club reports the 34-94 machine no longer is tone accessed, and the 96-36 machine has speed dial capabilities on the Autopatch. Both machines continue to give excellent coverage in and around Columbia.

The club meets each 1st Monday of the month at 7:30 p.m. at the South Carolina Electric and Gas building at Marion at Lady Streets.

(Becky, WB4VLY)

Cont. from Page 10

We are not insensitive to your requests. We respect your judgment as to how "clear" you might think a frequency would be for a new machine, but take it from a group with years of experience, and reams of documentation that if we disagree with you, we will probably be right. After your machine gets on, you would discover we were right, then it's too late.

We do make mistakes like everyone else, but usually being cautious is much better than being reckless when interference is involved.

DSI

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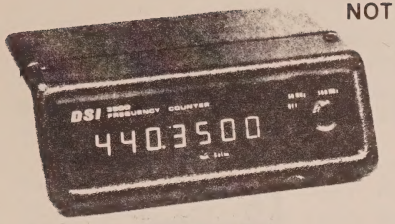

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500 MHZ Frequency Counter

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- 7 Large bright — ½ inch LED Readouts
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- Accuracy 1 PPM Typ
- Sensitivity 50 MvRms 150 & 250 MHz 150 MvRms 450 MHz
- Gate time light
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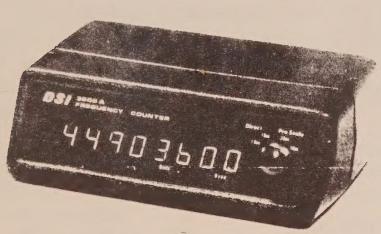
- 50 Hz to 500 MHz typ
- Comprehensive owners manual with complete accurate schematics
- Factory assembled & tested



MODEL 3600A $189.95
Includes oven timebase

600 MHz Frequency Counter

- Includes oven compensated crystal timebase
- Includes built-in 600MHz Prescaler-Not and addon
- 8 Large bright — ½ inch LED Readouts
- Two timebases 0.1 sec & 1. sec
- Resolution 1 Hz Direct 10 Hz Prescaled
- Sensitivity 20 MvRms @ 150 & 220 MHz 100 MvRms 450 MHz
- Accuracy .5 PPM over temperature
- Oven light & Gate time light
- Automatic Decimal point placement
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- Comprehensive owners manual with complete accurate schematics
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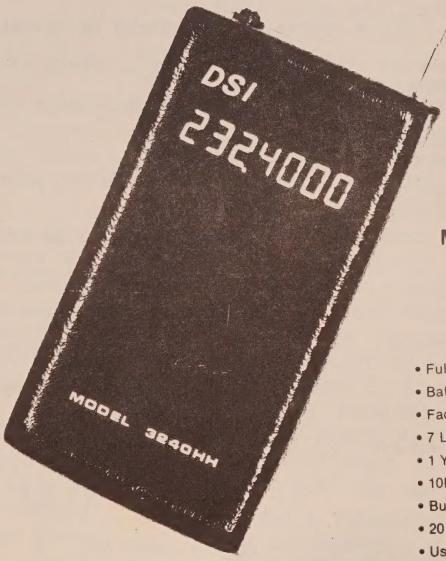
250MHZ FREQUENCY COUNTER
BATTERY OPERATED HAND-HELD



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2ND ANNUAL
HAMFEST

AFFILIATE

ARRL

WR4ATP
147.72/12
GASTONIA, NC

MEMBER

cvra REPEATERS VA NC SC

THE GASTONIA AMATEUR RADIO SOCIETY ANNOUNCES THE 2ND ANNUAL GASTONIA HAMFEST ON SATURDAY AND SUNDAY, JUNE 10 & 11, 1978 AT KARYAE PARK, GASTONIA, NORTH CAROLINA.

ACTIVITIES BEGIN 10:00 A.M. - PRIZE TICKETS $2.00 Each or 3 for $5.00

1ST PRIZE - NEW DENTRON 5 BAND TRANSCEIVER

DRAWING SUNDAY 2:00 P.M.

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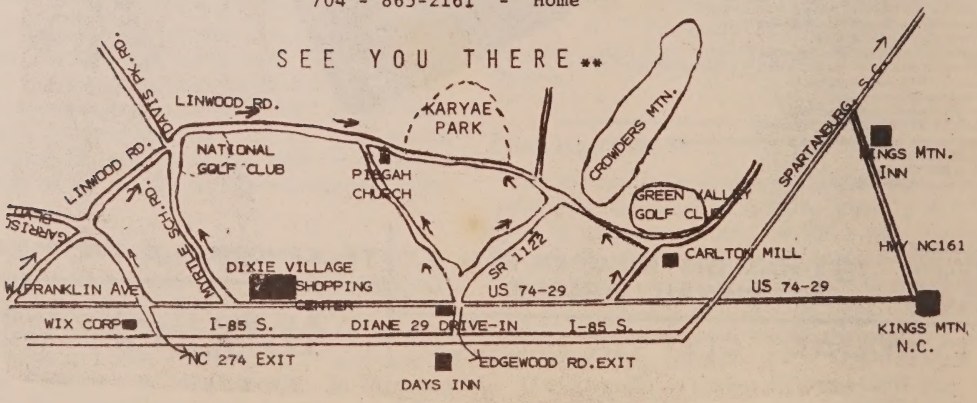

RALEIGH ARS NEWS 100 MONTHS OLD

The Raleigh (N.C.) Amateur Radio Society News clebrated with its 100th issue during the month of February. The special issue listed some of the achievements the club has made over the past years.

Editor, C.T. West WD4HSI, said members monthly conduct free message relay activities for the public at Crabtree Valley Mall and North Hills Mall in Raleigh.

Among other projects the club has done:

—a mobile station aboard a railroad steam engine.

—A commemorative station at Kitty Hawk in honor of the birth of manned flight.

—sending Christmas messages to governors of other states from the Governor of North Carolina..

—providing communication for a statewide Christmas tree lighting ceremony by Gov. Bob Scott.

RARS has conducted novice classes to enable newcomers to get their FCC licenses. The club has also conducted upgrading classes to enable members to acquire higher class licenses.

RARS established a two meter repeater, (WR4ACF 04-64) with club members designing and constructing a second generation repeater.

Editor West reflected upon the club's membership, and mentioned some of the silent keys, among the prominent, former Raleigh Mayor Jim Reid.

Looking ahead, West said, "the best is yet to come for our club. We have many good people with many good ideas. All it takes to make RARS better every year is for members to say, 'I will' when asked to take a more active part in the greatest hobby in the world. "WILL YOU?" (Ctsy RARS News, WD4HSI, Editor)

CARY ARC 6th ANNUAL SWAPFEST, JULY 15

The Cary Amateur Radio Club will present its 6th annual Mid-Summer Swapfest Saturday July 15th 10:00 a.m. to 3:00 p.m.

Registration will be held for door prizes, with no fees for buyers or sellers.

The Hamfest will be held outside Cary, N.C. Talk-in will be held on the 28-88 repeater and on 146.52 simplex.

BURLINGTON HAMFEST TO BE HELD JUNE 3rd

The Alamance ARC will hold their 3rd annual Swapfest on June 3rd, Saturday at the Cedar Rock Park, under the trees. Plenty of parking is available for attendance. Tailgating and dealer setups will be held under the trees in the park. Recreational facilities with covered picnic areas are available for the family.

Prizes will be given away Saturday afternoon. Food will be available at the flea market area. Games and recreation will be available also for the family, or just a casual stroll through the park.

REPEATER INDEX UPDATED CONTAINS NEW DESIGNATORS

We made a very strong attempt to update the repeater index and 2-meter Frequency Distribution chart this issue. Going with all the information we had on hand, every repeater was checked and updated as information was available.

There were several repeaters listed as proposed and had been listed under that category for almost a year. With no further information available, these repeaters were taken off the list.

If any repeater owners or users see any errors in the index, be sure to write the Journal Editor so changes can be made.

Many CVRA membership repeaters mentioned their repeater autopatches were private but would be brought up for other than club members when asked to do so. We put a new designator beside these repeaters "PA", designating that of Private Autopatch. Since one repeater has Emergency Autopatch only, we also inserted "EA" for its designator.(Editor)

HI YA'LL YANKEE BELLES I'M A SOUTHERN GAL HERE

The sound of "Yankee" girls talking to "Southern" gals is heard each Wednesday night on the Winchester 22-82 repeater.

Virginia Shaver, WA4QWC, Publicity Director of the Shenandoah Valley ARC writes to the Journal that Lee, W4JK arranges a weekly link-up with the WR4AGT Winchester repeater with the WR3AZI Altoona, Pennsylvania, thus allowing the gals from the Altoona area to chat with the girls in the Winchester area.

Virginia invites all YLs within range of either repeater to join in their gab session, regardless of which side of the line y'all live.

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REGISTRATION ** $3.00 (DISCOUNT FOR PREREGISTRATION- BEFORE JUNE 30th)

HOSPITALITY PARTY -- $3.00 donation

FREE ATTITUDE ADJUSTMENT BEVERAGES AND HORS D'OEUVRES

SCHEDULE OF ACTIVITIES

SAT. 8am - 1 pm

SAT. 8am - 1pm--- FCC EXAMS (TENTATIVE ** TO BE CONFIRMED)
1pm - 6pm--- FLEA MARKET & MEETINGS
7:30pm - MIDNIGHT *** HOSPITALITY PARTY (ATTITUDE ADJUSTMENT TIME)

SUN. 8am - 2:30pm--- FLEA MARKET AND SYMPOSIA

2:30 p.m. - GRAND PRIZE DRAWING - NEED NOT BE PRESENT TO WIN

BRING THE YL

LADIES ACTIVITIES SUNDAY AT LADIES LOUNGE IN AUDITORIUM

Special ladies prizes - must be present to win

SEMINARS

Contact the Hamfest Chairman, Sparky, K4GQG, if you would like to speak on your favorite subject.

TALK IN 146.34/94 MHZ

PRE-REGISTRATION FORM

NAME _____ CALL _____

ADDRESS _____ CITY & ZIP _____

_____ - Pre-registration(s) @ $2.50 each (admission, 1-Grand Prize Ticket & 1-Pre-registration Prize Ticket)

_____ - Additional family members pre-registration at $1.00 each (admission only)

_____ - Extra Grand Prize Tickets at $2.00 each

Please list names/calls of extra pre-registrations and all family pre-registrations

_____ PACKAGE DEAL

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REGISTRATION **********$2.50 (PLUS $1.00 for the XYL)
Hospitality Party ****$2.50 EACH
PACKAGE DEAL -- REGISTRATION AND PARTY FOR ONE HAM AND ONE XYL --$8.00

Con't from page 45

you're working a weak DX station. I should get two or three S units more with it in.

It sounds terrible, Phred. I just tuned on you and you're about ten khz wide.

Maybe I need to retune, Jim. I did QSY two kilohertz after I tuned up. Might be out of resonance. Lemme adjust my tuner.

Just turn off the processor, Phred.

I hate to do that, Jim. Gives my signal punch, you know.

Maybe, but there are a couple of W6s who are going to come up here and give you a hard time. They're trying to work a 3D6.

Yeh, I heard that. Couldn't copy the 3D6 though. I guess he was just too weak. Probably wasn't using an antenna tuner. You know how those underdeveloped countries are.

I'm going to sign with you, Phred. 73s and please turn off that processor, or at least get you a scope to adjust it by. See you later. WA4**@, this is WB9*$% clear. 73.

Roger, old man. I got a scope right here beside my digital hermometer, but I hardly ever turn it on. 73, Jim and good luck. See you later on down the old log. Maybe next time you'll have a tuner so you can copy me a little better. WB8*$%, this is WA4**@ clear. QRZ.... QRZ....this is WA4**@ anybody around?

WA4**@ this is WD5@*&. You copy?

Hey, roger,WD5@*&. This is WA4**@. Name's Phred. I'm going to turn on my speech processor. Let me know if it makes any difference in my signal.....go ahead.

10-4 good buddy. Turn it on....lemme hear it!

TECHNICAL TIP

Where's the best place to put your antenna for tuneup? This is a debatable question but my personal advice is to put the reflector on the ground or not more than 6 inches above it and point the boom straight up in the air. Support with a Wooden stepladder or other nonconducting device. Tune for lowest reflected power (lowest SWR). If using an SWR bridge, check the bridge balance each time frequency or matching is changed. Of course tuning the antenna at its final resting position would be best but usually quite difficult. Mounting an antenna on a short mast with the boom a multiple of one-half wavelength above ground is supposed to work also, but I have not had as much success with this method as with the one listed above.

(WB4EXW—Watson)

BRIGHTLEAF AMATEUR RADIO CLUB INFORMATION

The Brightleaf Amateur Radio Club of Greenville, N.C. elected new officers for 1978. The new slate of officers are: Bernard Nobles, WA4MOK, President; Charles Knowles, K4NBH, Vice President; Ron Dale, WD4JAD, Sec/Treas. Murray Adams, WA4DAN, was appointed editor of BARC's newsletter, HAMCHATTER.

Membership has more than doubled in the last two years with presently 72 members.

The club's net on 146.52 has been in operation for a year and participation has steadily increased. Simplex range has increased dramatically with most stations using Ringo Ranger antennas. Counties regularly on the net include: Pitt, Beaufort, Edgecombe and Martin.

(Murray Adams, WA4DAN)

TECHNICAL TIP

When tuning your VHF antenna for lowest SWR, do not make the mistake of putting the SWR bridge or FWD/RFD power meter very far from the antenna feedpoint. Losses in the feedline can cause erroneous (most of the time optimistically low) SWR readings. Best thing to do is to connect the bridge to the antenna with a half wavelength (electrical) coax. For frequencies at 220 or 440 MHz use a full electrical wavelength as it is easier to work with. Keep the bridge out of the plane of the antenna. Best to use 10 watts or less for tune-ups as most bridges give inaccurate SWR readings at higher power levels.

(WB4EXW—Watson)

COLUMBIA S.C. HAMFEST TO BE HELD MAY 20-21

The Carolina Repeater Society of Columbia, (S.C.) is sponsoring their annual hamfest on the weekend of May 20 and 21st. The event will be held at the Jamil Shrine Temple on I-26, west of Columbia.

The group said with the recent growth in enthusiasm for Amateur Radio, they feel this hamfest will be a big success.

A large flea market area is set aside, with dealers booths. Several prizes are planned for the attendance to the 2-day affair. Anyone with questions may write Paul Marsha, K4AVU, or the Carolina Repeater Society, 9 Higate Circle, Columbia, S.C. 29206. Special programs and surprises are planned for the Amateurs attending. (Paul, K4AVU)

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CWF-2BX Super CW Filter

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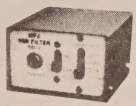
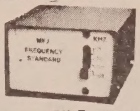
MFJ-16010 Antenna Tuner



$29.95

SBF-2BX SSB Filter



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MFJ-200BX Frequency Standard

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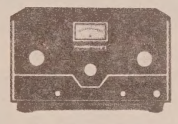
SWAN 1200X LINEAR AMPLIFIER. TALK LOUD FOR A SONG.

Everybody likes power and nowhere can you get more of it for $349.95 than with our Cygnet 1200X linear amplifier.

With 100 watts of driving power you're on the air with a solid 1200 watts PEP input and most people won't be able to tell you from somebody operating full bore.

Linearity on the 1200X is excellent, efficiency is outstanding, 117/230 A.C. power supply is built in, and features like provision for external ALC give you the flexibility you need to get the most out of your rig.



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Cygnet 1200X 1200- watt linear amplifier complete with built in 110/220V power supply $349.95

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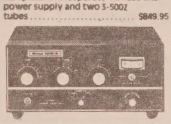
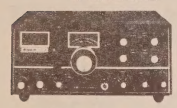


NEW TRANSCEIVERS



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- CW sidetone monitor with adjustable pitch and volume control
- 80 through 10 meters, USB, LSB, CW
- Selectable 25 or 100 KHz crystal calibrator
- Standard 5.5 MHz, 2.7 Hz bandwidth crystal filter or optional accessory 16 pole filter available with 140 Db ultimate rejection.

Accessories

- VX-2 Vox
- MK-II Linear amplifier
- DD-76 Digital Dial

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350A — $599.95

- 300 watts P.E.P. input SSB
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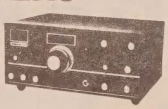
- Oscillators are solid state and IC regulated for stability
- CW sidetone monitor with adjustable pitch and volume
- CW audio filter 80 and 100 Hz selectable
- Built in 117 VAC power supply and speaker. (220 VAC power supply available on special request)

Accessories

- VX-2 Vox
- 14A DC Converter
- 1200X linear amplifier

- Crystal Calibrator (350A only)



350D — $699.95

- Same basic features as 350A except added feature of:
- 6 Digit LED frequency display with readout to 100 Hz

Both the 350A and the 350D are compatible with the same line of Swan accessories that has built a reputation for reliability and performance that's second to none. Including linear amplifiers to boost your power to the legal limit.

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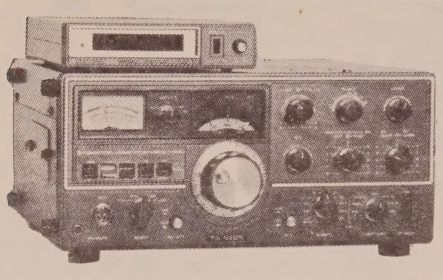

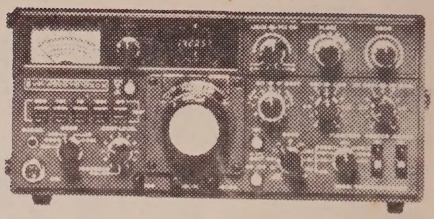

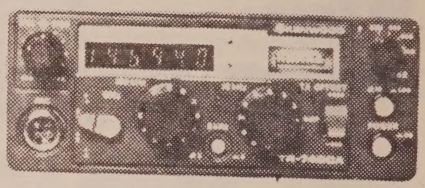

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COMMUNICATIONS 78 PLANNED IN GREENSBORO JULY 29-30

The Greensboro Amateur Repeater Association plans their 2nd annual Communications show and hamfest at the Greensboro Coliseum Exhibition Hall on July 29th and 30th.

The event last year, one of the first in the area to hold exhibits of all types of communications is planned very similar this year. Dealers booths will be available, and a large flea market area in the air-conditioned exhibition hall. Prizes will be given away both days of attendance. Amateurs and their families and friends are invited to attend Communications 78, Greensboro, N.C.

COMMUNICATIONS DEPARTMENT ARRL INITIATES NEW WELFARE MSG. FORM

George Hart, WINJM, Communications Manager for the ARRL has announced the "Amateur Radio Disaster Welfare Message" form, CD-244 as a new operating aid suggested by W4LPG. The new form is designed to provide an orderly way of accepting health and welfare traffic from the public during an emergency. The new form is to be used ONLY in the origination of messages FROM the disaster area.

Hart in his letter to all ARRL SCMs, PRAs, ECs, etc. he suggested they reproduce the form (reduced for publication on page 56) in whatever quantity needed. An area to the right of the ARPSC emblem has been left blank for local user personalization, such as the name and address of the Emergency Coordinator or local radio club. (From CD, Bulletin)

MANASSAS HAMFEST JUNE 4

The Ole Virginia Hams ARC, Inc. announce their annual Manassas Hamfest to be held June 4th at the Prince William County Fairgrounds. The event ½ mile south of Manassas, Virginia on Route 234 (30 miles west of Washington, D.C.) is an annual event rich in goodies for the builder. It is attended by many parts dealers from the Northeast.

The club reports indoor and outdoor exhibit areas, dealers, manufacturers and tailgaters with plenty of parking. Again, the FM clinic will be featured for checking out your 2-meter rig. Also included aside from great prizes are programs for the "YL", children's entertainment and more. Refreshments and lunch by the Woodbridge Wireles, Inc.

C'MON FELLOWS, A LITTLE HELP WOULD BE GREATLY APPRECIATED

This editor has been to 4 hamfests so far this season, at 3 of them CVRA booths were set up. At each of the three hamfests, an information sheet requesting the PA Announcer tell the attending Hams about our CVRA booth.

There seems to be a lack of cooperation in most instances. Keep in mind that many of the people who come to your hamfests, read about it in the CVRA Journal with the stories we write, and the Hamfest Calendar.

So, Mr. Hamfest Announcer, when the CVRA member (who is spending his own money, and his own time working at the CVRA booth) asks you to please announce once in a while that the CVRA booth is taking applications, please help him out. It's for a good cause and it won't hurt to take a little time for us, after all time is about the only thing left anyone can give free anymore to Public Service. Thanks Much. (K4MOB, Wayne)

FLORENCE ARC REORGANIZES NOW RUNNING FULL STEAM

The newly reorganized Florence Amateur Radio Club (S.C.) is now very active in all areas of Amateur Radio. The club recently got its new repeater 25-85 on the air. The group has joined the ARRL, RACES, and CVRA, making a well-rounded organization.

President of Florence ARC is Ray Caulder; VP, Bobby Wallace, WB4VYA; Sec., Charlie Caulder, WD4KFD; Treas., Luella Caulder, WA4VDW; Activities Chairman, Bruce Turner, WB4YFZ and Repeater Trustee is Tommy Johnson, N4TJ.

The club meets at Shoneys in Florence on the first Tuesday of each month at 7:30 p.m. (Len, WB4USY)

TECHNICAL TIP

Proper weather proofing of all antenna hardware and coax connectors is extremely important. Spray all antenna hardware and joints with clear "Krylon" or other acrylic spray after the antenna is constructed. Several thin coats are best. Wrap all coax connectors exposed to the weather with several layers of electrical tape and then spray with several coats of "Krylon".

(WB4EXW—Watson)

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NR	PRECEDENCE	HX	STATION	CHECK	PLACE OF ORIGIN	TIME	DATE
	P			ARL			

TO: _____ TELEPHONE _____

_____ CITY _____ STATE _____

(PLEASE CHECK NOT MORE THAN TWO STANDARD TEXTS FROM LIST BELOW)

_____ ONE — All safe. Do not be concerned about disaster reports.

_____ TWO — Coming home as soon as possible.

_____ THREE — Am perfectly all right. Don't worry.

_____ FOUR — Everyone safe here. Only slight property damage.

_____ SIX — Everyone safe, writing soon.

_____ ELEVEN — Conditions do not permit me to come home at this time. Am perfectly all right. Will be home as soon as possible.

_____ EIGHTY SIX — Everything well here. Hope all well there. Will write later.

_____ NINETY — Arrived at _____ (place) safely. Will write as soon as possible.

DATE _____ SIGNATURE _____ TELEPHONE _____

Please Note: Priority will be given to messages having delivery telephone numbers. Delivery of messages requiring postage or telephone toll charges is optional with the delivering station.

MESSAGE ACCEPTED AT	SENT TO	TIME	DATE	OPERATOR	CALLSIGN

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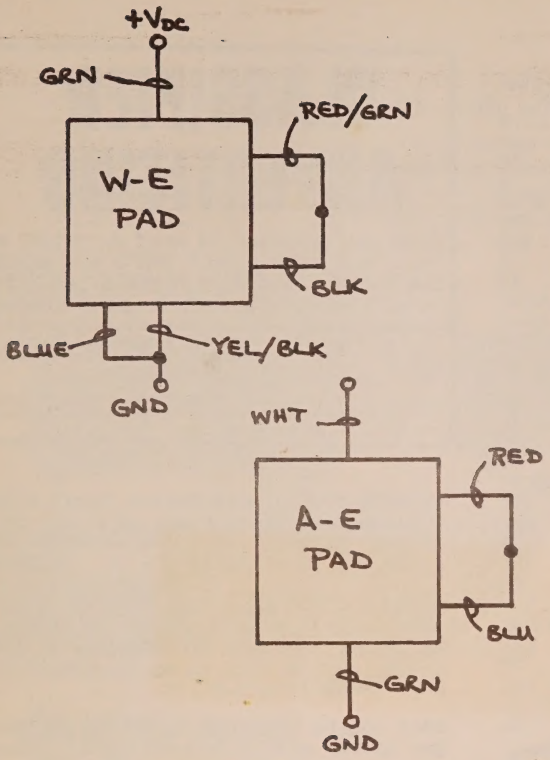

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calendar of coming events

HAMFEST CALENDAR

The following list of Hamfests/conventions has been gathered with cooperation from the various clubs, and Phil Wicker, Roa. Dir. of the ARRL.

May 1978

20-21 . . . . . .DURHAM, N.C.
20-21 . . . . . .COLUMBIA, S.C.
27-28 . . . . . .KNOXVILLE, TENN.
ARRL TENNESSEE STATE CONVENTION

June 1978

3rd . . . . . BURLINGTON, N.C.
3-4 . . . . . ATLANTA, GA.
4th . . . . . .MANASSAS, VA.
9-10 . . . . . .WINSTON-SALEM, N.C.
ANTIQUE WIRELESS ASSN.
REGIONAL CONF.
10-11 . . . . . .GASTONIA, N.C.

July 1978

1-2 . . . . . .JACKSON MILL, W.VA.
ARRL W.WA. STATE CONVENTION
8-9 . . . . . .CHARLES TOWN, S.C.
15th . . . . . CARY, N.C.
22-23 . . . . . .ARLINGTON, VA.
AMATEUR COMPUTING '78
29-30 . . . . . GREENSBORO, N.C.

August 1978

6th . . . . .(WINCHESTER) BERRYVILLE,VA.
12-13 . . . . . .FAYETTEVILLE, N.C.
13th . . . . . .RIPLEY, W.VA.
19-20 . . . . . BRISTOL, TENN.
27th . . . . . BLUEFIELD, W.VA.

September 1978

2-3 . . . . . .SHELBY, N.C.
(ANNUAL CVRA MEETING SAT.
NITE AT HAMFEST)
3rd . . . . . .MORGANTOWN, W.VA.
16-17 . . . . . .DXPO, TYSON CORNER, VA.
22-24 . . . . . SAN DIEGO, CALIF.
ARRL NATIONAL CONVENTION
23-24 . . . . . NORFOLK, VA.

October 1978

1st . . . . . ROCK HILL, S.C.
7th . . . . . .ASHEVILLE, N.C.

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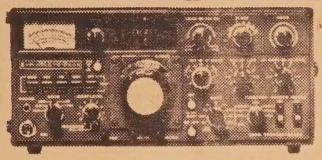

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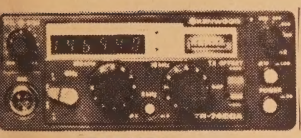

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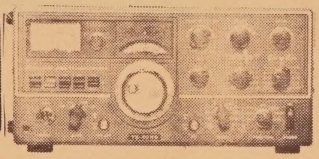

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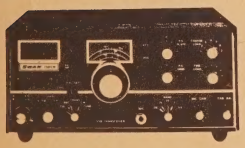
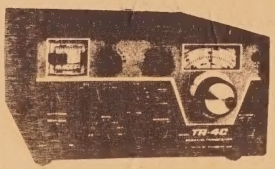
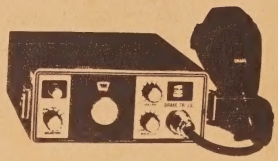


750CW



TR4CW



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